

U.S. Department of Transportation

National Highway Traffic Safety Administration

Dear Crash Data Researchers/Users:

Thank you for choosing crash data from the National Highway Traffic Safety Administration (NHTSA) for your research or other use. The information contained in this motor vehicle crash report is collected, maintained and distributed in accordance with Public Law 89-564. In accordance with this Public Law, NHTSA is required not to release any case information until completion of quality control procedures. These procedures include a review of the case material to extract all names, licenses and registration numbers, non-coded interview material, non-research related researcher comments in the margins, non-factual data, and the production number portion of the vehicle identification number (VIN).

If you requested NHTSA to query its database files in order to identify a specific crash, then that query was made using non-personal descriptors you provided for use in our search. This motor vehicle crash may have been identified from a data search and matches the general, non-personal descriptors you provided, but we cannot confirm that this is the specific crash report you requested.

If you have any questions with regard to the above procedures, please contact the Field Operations Branch, Crash Investigation Division, National Center for Statistics and Analysis at 202-366-4820. Again, please be advised that we cannot confirm that this is the case that you have specifically requested nor can we certify the information to be correct.

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DYNAMIC SCIENCE, INC. In-Depth Accident Investigation

Contract DTNH22-94-D-27058 Case DSI-94-AB-016



TECHNICAL SUMMARY

CONTRACTOR: CONTRACT NUMBER: CASE NUMBER: Dynamic Science, Inc. DTNH22-94-D-27058 Case DSI-94-AB-016



This two vehicle accident happened 1994 at 2300 hours in the second CA. The accident location is a four-leg intersection. The east/westbound roadway is six lanes, divided with a curbed raised median and guardrails located on the median. The roadway edges are curbed. There are two left turn lanes present for each direction of travel. The posted speed limit is 72 KPH (45 MPH). The road is level, and is paved rain grooved concrete. There were no reported unusual roadway conditions and the weather conditions were clear with the roadway surface being dry. Street lights were present and working at the time of the accident.

Vehicle 1, a 1993 Lexus SC 400 2 door, was being driven eastbound in the second lane from the curb by a 57 year-old female attempting to travel straight through the intersection. Vehicle 2, a 1983 Oldsmobile Cutlass, was stopped waiting for the red light directly in front of the path of travel for Vehicle 1. The female driver of Vehicle 1 attempted to avoid hitting Vehicle 2 by applying the brakes and steering her vehicle to the left. The front right struck the back of Vehicle 2. The length of direct contact on the front right bumper of Vehicle 1 was 63 cm (24.8 in.). The investigator assigned Collision Deformation Classification for Vehicle 1 is 12FZEW1. At the time of the vehicle inspection, Vehicle 1 had been dismantled to the point that it was not possible to obtain a crush measurement. The force applied to Vehicle 1 was of sufficient magnitude as to cause the factory installed Supplemental Restraint Systems (driver and passenger side airbags) to deploy.

The driver of Vehicle 1 was wearing hard contact lenses in both eyes at the time of the accident. Contact with the deployed airbag caused the contact lenses to break; this caused numerous injuries to her eyes (please refer to the medical reports). She also sustained minor abrasion injuries to her forehead and upper cheek area from contact with the airbag. The driver was transported to the hospital and subsequently admitted because of her eye injuries. The male front seat passenger of Vehicle 1 sustained abrasions and a laceration to his forehead due to contact with the passenger side airbag. He refused treatment for his injuries.

The police report indicated that the driver of Vehicle 1 had been drinking prior to the accident, but the level of impairment was unknown.

The male driver of Vehicle 2 sustained a minor whiplash type injury to his neck. He reports having broken his seatback as a result of the force applied to his vehicle and the resulting occupant movement.

The on-scene investigating officer authorized towing of both vehicles from the scene.

A representative from the Lexus Western Division inspected the case vehicle and generated a Product Information Report, however, we were unable to obtain a copy of the report.

This research was supported by the National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation, under contract number DTNH22-94-D-27058. The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the NHTSA.

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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

Abbreviations Used In Narrative, Scene And Photographic Documentation

ft	Feet		
in	Inches		
AIS	Abbreviated Injury Scale		
BLF	Begin Left Front		
BLR	Begin Left Rear		
BRF	Begin Right Front		
BRR	Begin Right Rear		
CBE	Cab Behind Engine		
CCW	Counterclockwise		
CDC	Collision Deformation Classification		
CG	Center of Gravity		
CM	Centimeter		
CW	Clockwise		
E, EB	East, Eastbound		
ELF	End Left Front		
ELR	End Left Rear		
ERF	End Right Front		
ERR	End Right Rear		
FRP	Final Rest Position		
I	Interstate Highway		
IP	Intermediate Point		
KG	Kilogram		
KPH	Kilometers Per Hour		
LF	Left Front		
LR	Left Rear		
N, NB	North, Northbound		
NE	Northeast		
NW	Northwest		
PDOF	Principal Direction of Force		
POI	Point of Impact		
R	Radius of Curvature		
RF	Right Front		
RL	Reference Line		
RP	Reference Point		
RR	Right Rear		
S, SB	South, Southbound		
SE	Southeast		
SW	Southwest		
T	Time or Elapsed Time (in seconds)		
U.S.	United States Highway		
V1	Vehicle Number 1		
W, WB	West, Westbound		

ACCIDENT DATA:

Location: County, CA

Area/Type: Urban

Date/Time: Summer/Weekday

Accident Type: Car/Car, rear-end

INJURY SEVERITY:

Vehicle 1: Driver - AIS-1

R/F Occupant - AIS-1

Vehicle 2: Driver - AIS-1

AMBIENCE:

Viewing Conditions: Dark-street lights, no viewing restrictions

Cloud Cover: Scattered Cloud Cover

Precipitation: None

Temperature: 18°C (65°F)

Road Surface: Dry

ROADWAY:

VEHICLE 1 VEHICLE 2

Type: 6-lane, divided; 3-lane 6-lane, divided; 3-lane

eastbound eastbound

Width: 3.7 m (12.2 ft) 3.7 m (12.2 ft)

Traffic Density: Light Light

Median: Concrete Curb Concrete Curb

Edge: Curb Curb

Surface: Concrete Concrete

Reported Defects: None None

Co-efficient of Friction (est.): 0.70 0.70

Vertical Alignment: Level Level

Horizontal Alignment: Straight Straight

TRAFFIC CONTROLS:

<u>VEHICLE 1</u> <u>VEHICLE 2</u>

Signals: Standard Traffic Standard Traffic Signal, working Signal, working

proved out proved out

Signs: None related None related

Speed Limit: 72 KPH (45 MPH) 72 KPH (45 MPH)

Markings: Normal Roadway Normal Roadway

Markings Markings

VEHICLES:

	<u>VEHICLE 1</u>	VEHICLE 2
Description:	1993 Lexus SC 400	1983 Oldsmobile Cutlass
Odometer:	Unknown	Unknown
Engine:	4.0 L / V8	3.8 L / V6
Brake System:	Anti-Lock	Unknown
Vehicle Modifications:	None	Unknown
Tire Condition:	Normal	Unknown
Manual Restraints:	3-point lap/shoulder restraints in the four outboard seating positions, C/R lap belt	Non-passive manual belts, per V.I.N.
Automatic Restraints:	Supplemental Restraint System (driver's side and passenger's side airbag)	None
Reported Defects:	None	None
Cargo:	None	Unknown
Windshield Damage:	None	Unknown
Fleet:	None	None
Tow Status:	Towed, disabling damage	Towed, disabling damage

VEHICLE DAMAGE:

Event Number:

VEHICLE 1 VEHICLE 2

Object Struck: Vehicle 2 and

guardrail

01, 02

CDC: 12FZEW1 Unknown

12FLLS1

Maximum Crush: Zone 1 Unknown

VEHICLE VELOCITY ESTIMATES:

<u>VEHICLE 1</u> <u>VEHICLE 2</u>

Impact Speed 56-64 KPH (estimated): (35-40 MPH)

Total Delta V: Not computed,

insufficient data, Vehicle 1 was being repaired at the time of inspection

and Vehicle 2 was not

inspected

Not computed, insufficient data, Vehicle 1 was being

repaired at the time of inspection and Vehicle 2 was

not inspected

0, Stopped

Vehicle 1

Longitudinal Delta V:

Lateral Delta V:

Energy Dissipation:

COLLISION SEQUENCE:

PRE-CRASH:

Vehicle 1 was travelling eastbound in the center through lane of a sixlane, divided roadway at a unknown speed approaching an intersection. Vehicle 2, a 1983 Oldsmobile Cutlass, was travelling eastbound directly in front of Vehicle 1. The male driver of Vehicle 2 had stopped his vehicle for the red traffic light. The female driver of Vehicle 1 apparently did not notice that Vehicle 2 stopped. The driver of Vehicle 1 attempted to avoid the collision by applying the brakes and steering left.

CRASH:

The right front of Vehicle 1 struck the left rear of Vehicle 2. Resultant direction of force for Vehicle 1 was 005 degrees. The Delta V was not computed for this collision due to insufficient data for the reconstruction algorithm of CRASH III PC or the missing vehicle algorithm. The forces in this collision exceeded the manufacturer's threshold in the Supplemental Restraint Systems, and the driver's and passenger's side airbags deployed

The impact shifted Vehicle 1 in an insignificant clockwise direction and Vehicle 1 continued forward and to the left, which was the direction of travel prior to impact. Vehicle 2 was pushed in a longitudinal direction and to the left in a slight clockwise direction.

Vehicle 1 continued forward, through the intersection and impacted a guardrail. The guardrail location is in the center curbed median.

POST CRASH:

The final resting point for Vehicle 1 was past the intersection approximately 170 feet after the initial impact. Vehicle 2 was pushed largely longitudinally and to the left in a slight clockwise direction and came to rest facing in an easterly direction within the intersection on all four wheels.

KINEMATICS:

The driver of Vehicle 1 sustained minor skin injuries about the forehead and upper cheek from contact with the airbag. She also received numerous injuries to her eyes from striking the airbag which caused her hard contact lens to break; maximum AIS = AIS-1. These types of injuries are possible given the principal direction of force applied to Vehicle 1 and the resultant occupant movement. The right front passenger sustained minor skin injuries to his forehead which consisted of an abrasion and laceration; maximum AIS = AIS-1. Again, these types of injuries are possible given the principal direction of force applied to the vehicle and the resultant occupant movement. The driver of Vehicle 2 reported a whiplash injury to his neck; maximum AIS = AIS-1. This type of injury is probable given the principal direction of force applied to Vehicle 2 and the resultant occupant movement.

SUPPLEMENTAL RESTRAINT SYSTEM:

Vehicle 1 was equipped with Supplemental Restraint Systems (driver's and passenger's side airbags). The air bags deployed as a result of the initial frontal collision. The vehicle inspection indicated occupant contact to the vehicle interior which would indicate that the driver was not wearing her available 3-point, manual lap/shoulder restraints. The right front passenger reported wearing the available 3-point, manual lap/shoulder restraints and reports contact with the airbag.

SCENE CLEARANCE:

Both vehicles sustained disabling damage and authorization for tow from the scene was obtained from the investigating officer.

SAFETY STANDARDS:

There were no violations of Federal Motor Vehicle Safety Standards noted during the on-site inspection of Vehicle 1.

OCCUPANT DATA:

VEHICLE 1

DRIVER Occupant 2

Age/Sex: 57/Female 60/Male

Seated Position: Left Front Right Front

Seat Type: Bucket Bucket

Height: 170 cm (67 in) 193 cm (76 in)

Weight: 68 kg (150 lb) 95 kg (210 lb)

Occupation: Business Owner Business Owner

Pre-existing Medical Allergy to Iodine Unknown

Condition:

Alcohol/Drug Involvement: Yes/Impairment unknown N/A

Alcohol/Drug Involvement: Yes/Impairment unknown N/A

Driving Experience: 41 years N/A

Body Posture: Normal upright Unknown, asleep

Hand Position: Normal, placed on wheel Normal

Foot Position: Right on brake, Normal

left on floor

Restraint Usage: Supplemental Restraint Supplemental Restraint System (driver's side airbag) System (passenger's side

System (driver's side airbag) System (passenger's side airbag)

Additional Occupants: One None

OCCUPANT DATA:

VEHICLE 2

DRIVER

Age/Sex: 53/Male

Seated Position: Left Front

Seat Type: Unknown

Height: 183 cm (72 in)

Weight: 86 kg (190 lb)

Occupation: Unknown

Pre-existing Medical None reported Condition:

Alcohol/Drug Involvement: None

Driving Experience: 37 years

Body Posture: Normal, upright

Hand Position: Unknown

Foot Position: Right on brake,

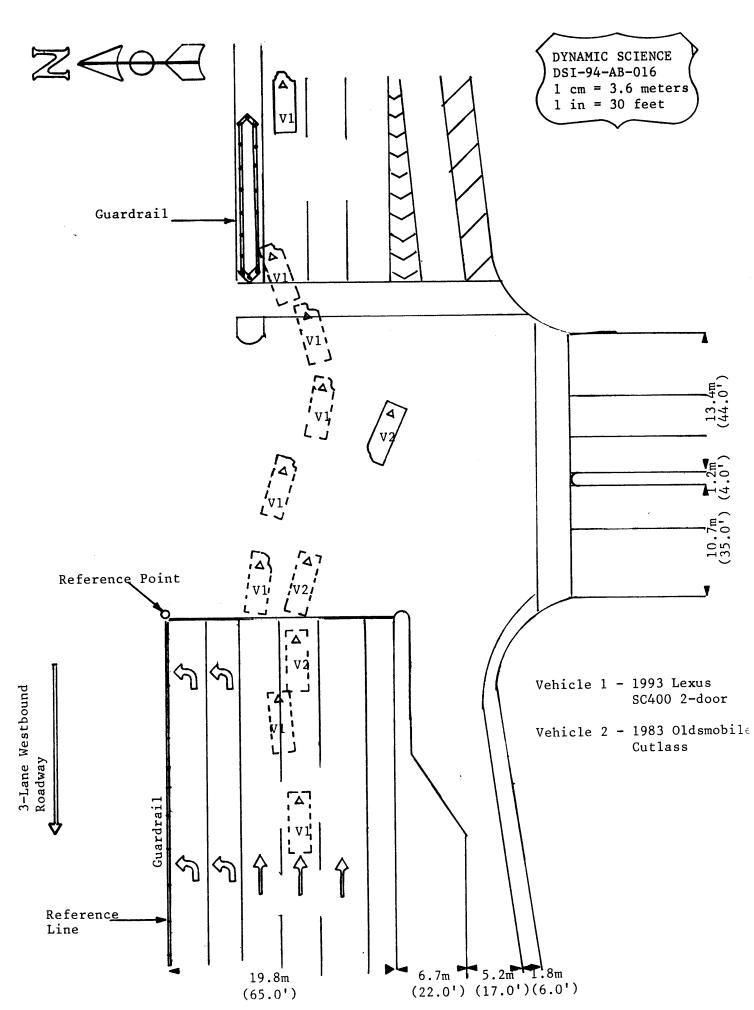
left on floor

Restraint Usage: None used

Additional Occupants: None

INJURIES: <u>Vehicle 1</u>

	<u>INJURY</u>	OIC CODE	<u>ICD-9</u>	SOURCE
DRIVER	Abrasion, right lower eyelid	297202.1,1	918.0	Airbag
	Abrasion, left lower eyelid	297202.1,2	918.0	Airbag
	Conjunctiva hemorrhage, left eye	240416.1,2	372.72	Airbag
	Conjunctiva hemorrhage, right eye	240416.1,1	372.72	Airbag
	Lenitcular shaped disruption of the right iris between 7 and 8 o'clock (tear/iridodialysis)	240900.1,1	871.1	Airbag
	Edema w/ ecchymosis of the mucosal surface of the left upper lip	243202.1,8	920.0	Airbag
	Acute bilateral hyphema, (left and right eyes)	240604.1,1 240604.1,2	364.41 364.41	Airbag Airbag
	Abrasion, right cheek	290202.1,1	910.0	Airbag
	Vitreous hemorrhage, right eye	241699.1,1	379.23	Airbag
	Posterior vitreous detachment, right eye	241699.1,1	379.21	Airbag
	Abrasion, forehead	290202.1,7	910.0	Airbag
R/F Occupant:	Lacerated, forehead	290600.1,7	873.42	Airbag
	Abrasion, forehead	290202.1,7	910.0	Airbag
Vehicle 2				
DRIVER:	Whiplash	640278.1,6	847.0	Impact forces



COLLISION MEASUREMENTS

Case Number DSI-94-AB-016

Reference Point:

Sign post in west median of the intersection

Reference Line:

South curb line of the eastbound travel lanes

DATA POINT	DISTANCE AND DIRECTION FROM REFERENCE POINT	DISTANCE AND DIRECTION FROM REFERENCE LINE
Eastbound Travel Lanes		
1st solid white painted line	0	S 3.2 m (10.6 ft)
2nd solid white painted line	0	S 6.6 m (21.6 ft)
1st broken white painted line	0	S 10.5 m (34.3 ft)
2nd broken white painted line	0	S 14.2 m (46.5 ft)
3rd solid white painted line	0	S 18.0 m (59.1 ft)
South curb line of the eastbound travel lanes	0	S 20.4 m (66.9 ft)
North/South Bound Travel lanes		
1st broken white painted line	E 5.9 m (19.5 ft)	0
West curb of median	E 10.0 m (32.9 ft)	0
East curb of median	E 11.3 m (37.1 ft)	0
1st solid white painted line	E 15.1 m (49.7 ft)	0
2nd broken white painted line	E 18.9 m (62.1 ft)	0
East curb line of the north/southbound travel lanes	E 24.7 m (81.0 ft)	0
1st POI (Vehicle 1 and 2) approx.	W 3.6 m (12.0 ft)	S 11.9 m (39.0 ft)
2nd POI (Vehicle 1 and guardrail) approx.	E 32.0 m (105.0 ft)	S 6.4 m (21.0 ft)

PHOTO INDEX

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5	2	East	Post impact travel, area of final rest	
6	1 and 2	West	Opposite direction of travel	
7-10	1		Vehicle 1 exterior, photographs supplied by driver	
11-15	1		Airbag deployments, photographs supplied by driver	
16-32	1		Vehicle exterior	
33-40	1		Driver's side airbag and occupant contact point (lipstick)	
41-49	1		Driver and passenger side visor, windshield header. Occupant contact on driver's side	
50-55	1		Passenger side airbag	
56-57	1		Back seat area	
58-59	1		Seat belt buckle scratching	
60-63	1		Driver injuries, photographs provided by driver	
64-67	1		Driver eye injuries, photographs provided by doctor	

"GRAPHIC" PHOTOGRAPHS AND IMAGES

The following "GRAPHIC" Pl	hotographs and Images ha	ave been removed from this case.
Ph	10to # 64-67	

If you would like a copy of these photographs and/or images please write to:

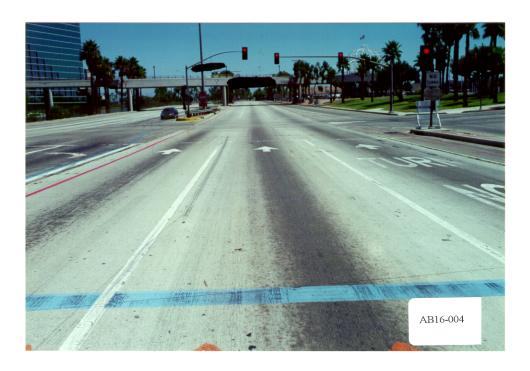
MARJORIE SACCOCCIO VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER 55 BROADWAY CAMBRIDGE, MA 02142

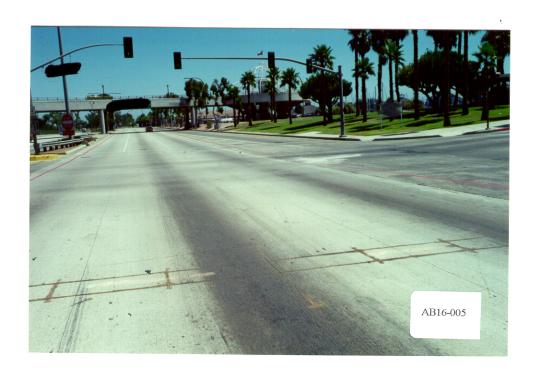
In the body of your request please include the case, photograph and image number(s).







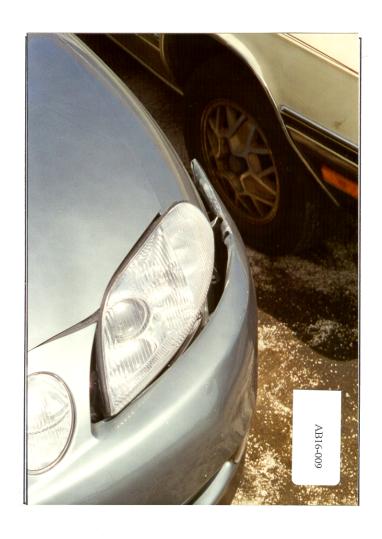




















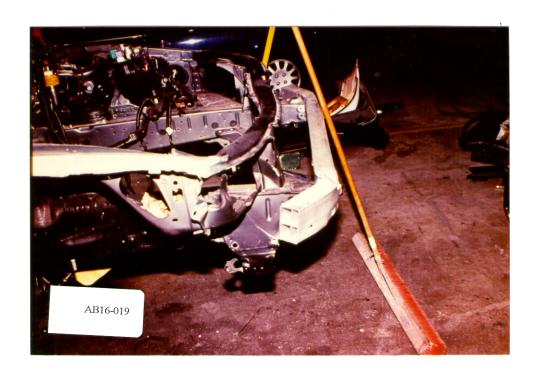








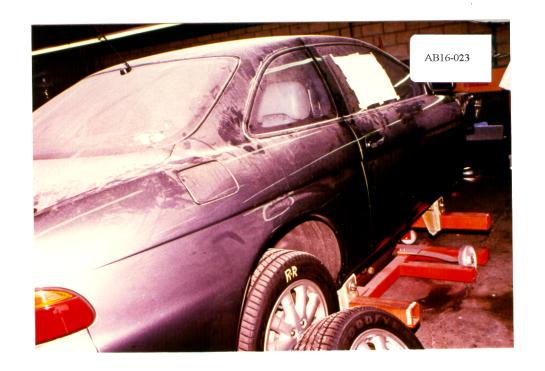


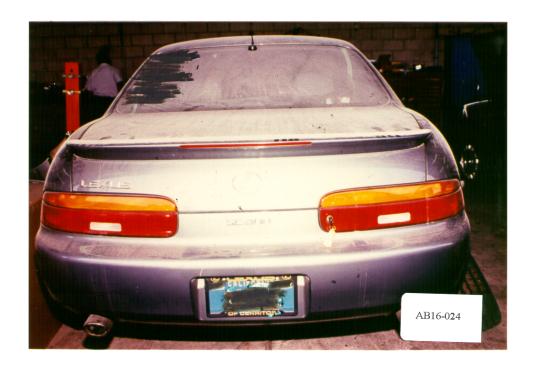








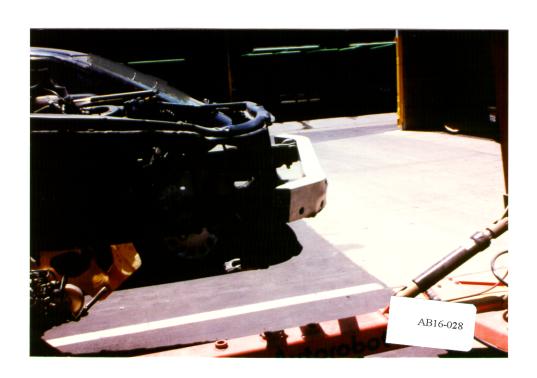




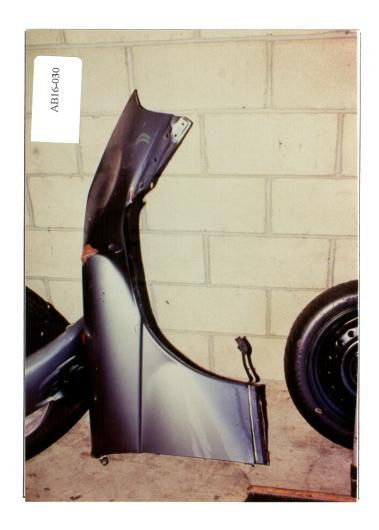


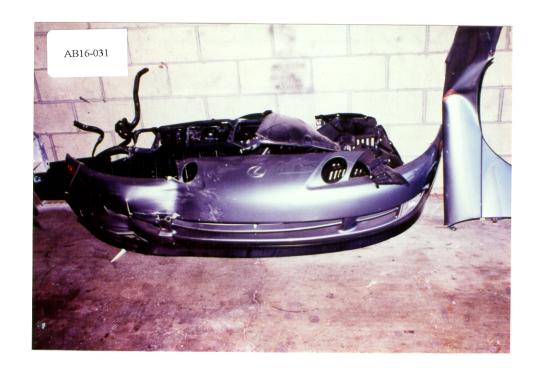










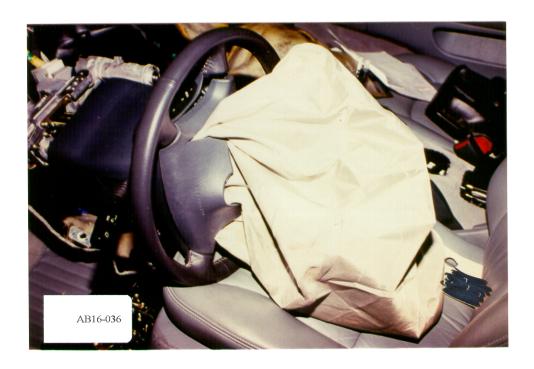




























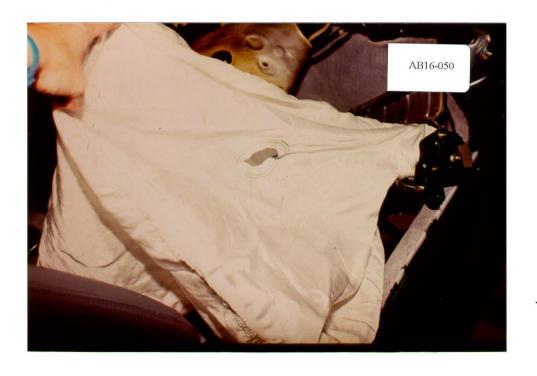




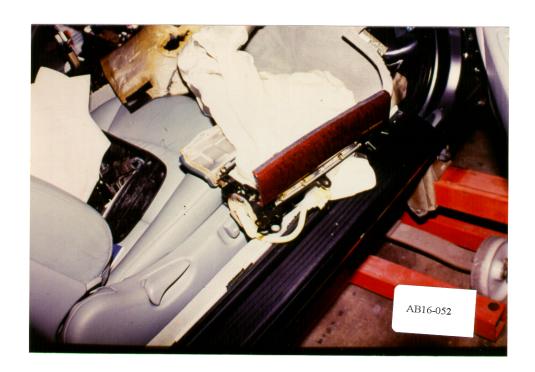




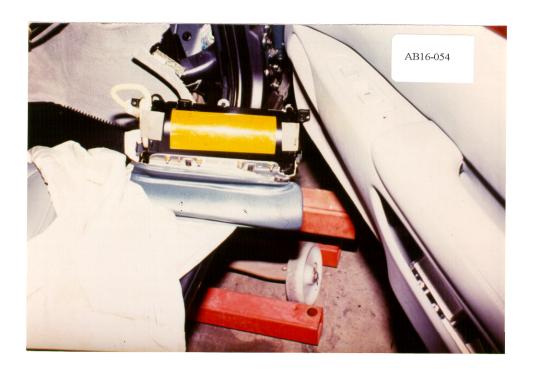


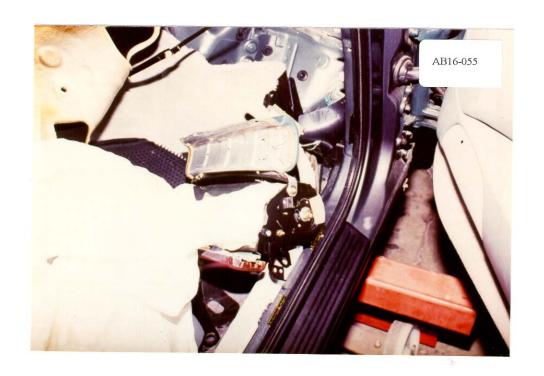


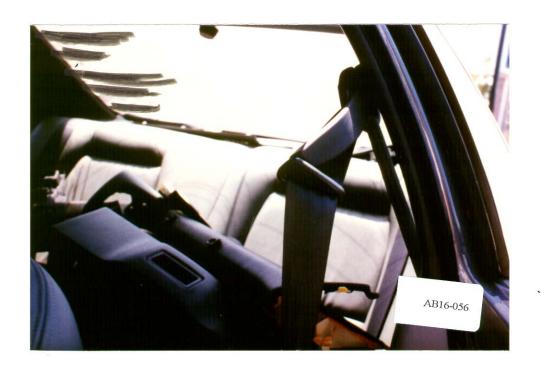




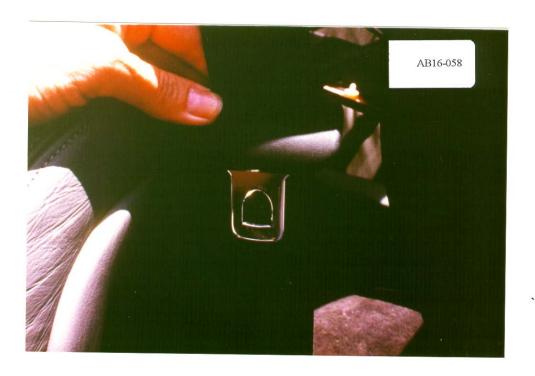


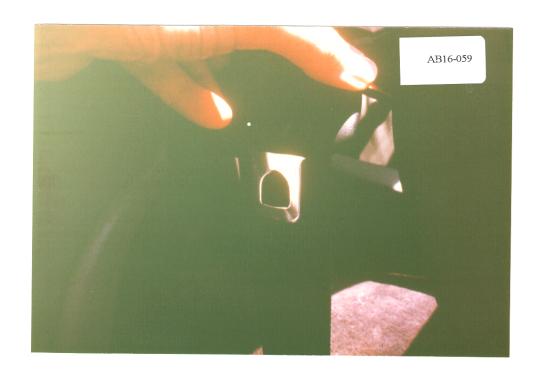
















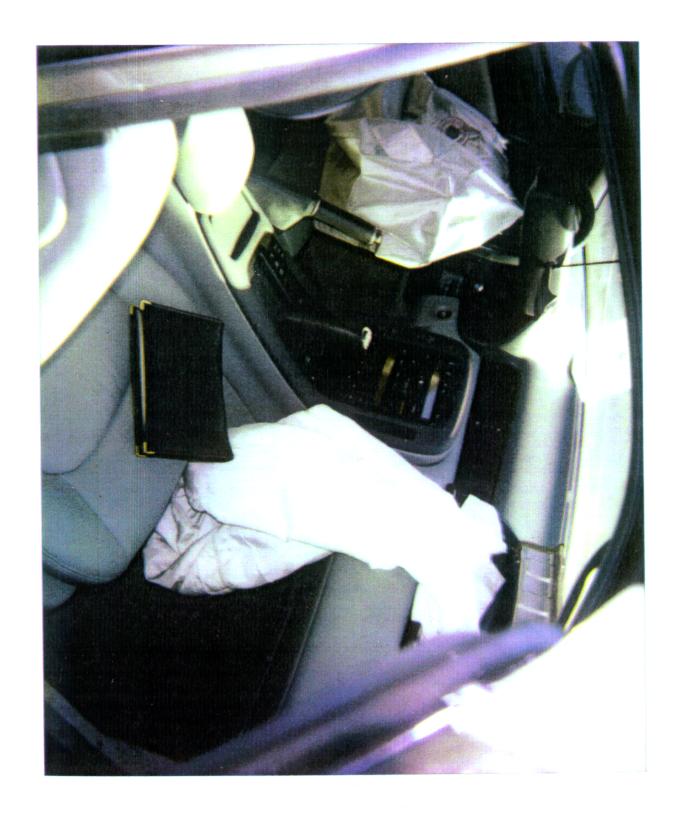




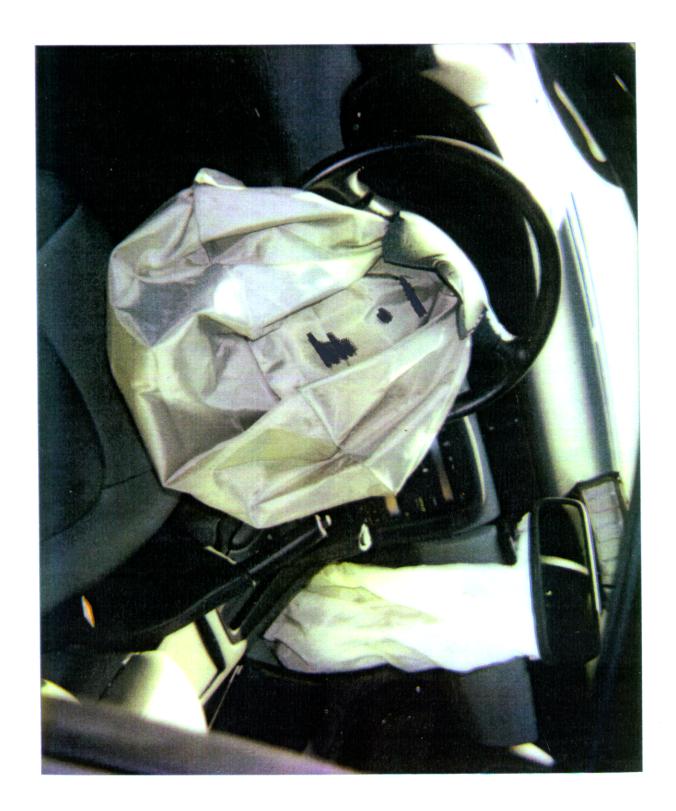




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DSI-94-AB-16-68



SLIDE INDEX

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64-65	1		Driver eye injuries, photographs provided by doctor
66-69	1		Airbag photographs provided by body shop

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SLIDE #64,65	

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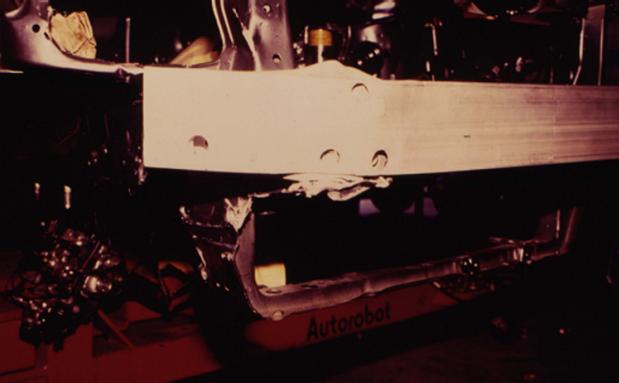


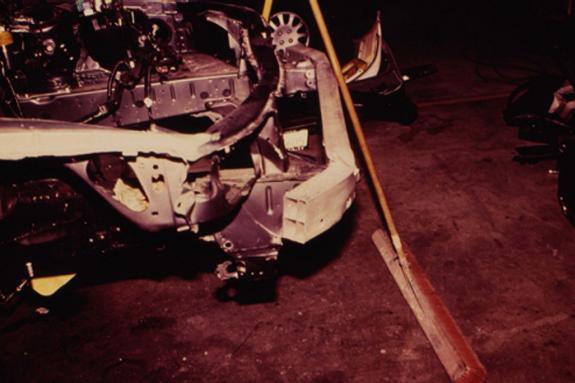


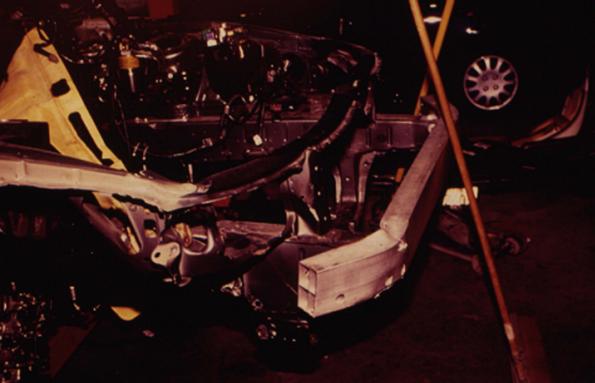












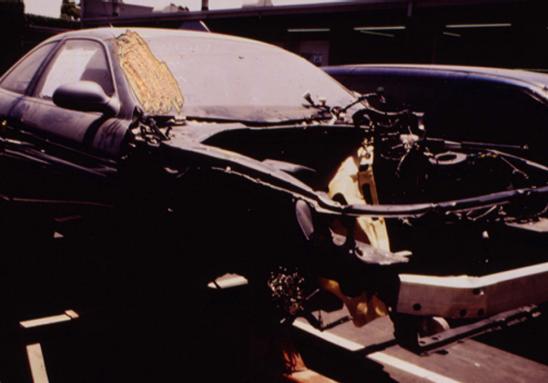




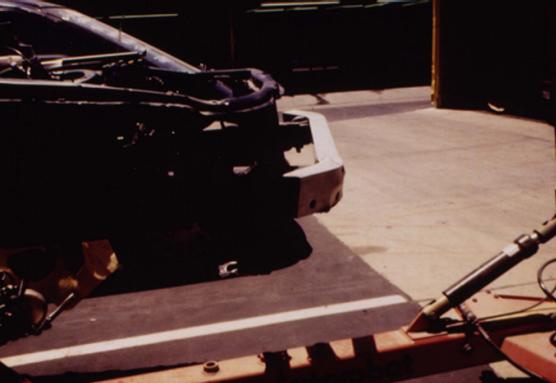


















































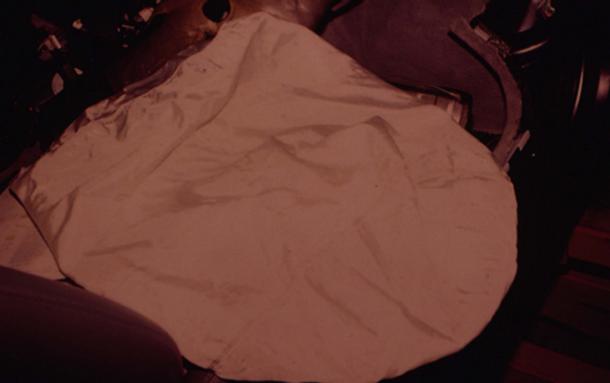




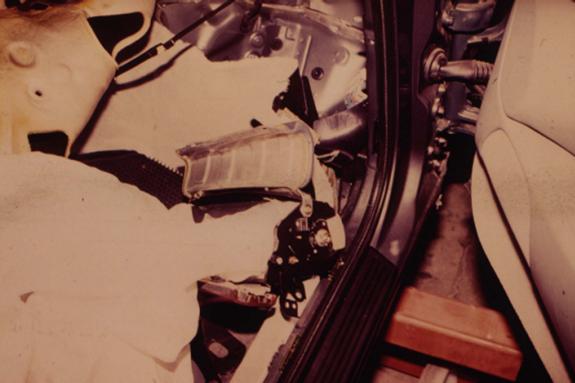




























MANUFACTURE CASE NUMBER YEAR

DYNAMIC	SCIENCE	
DS 9416		
1994		

SLIDES

THE FOLLOWING SLIDE(S) ARE NOT INCLUDED IN THIS CASE:

SLIDE NUMBER(S)

66-69

National Highway Traffic Administration	Safety	ACCIDE	ENT FOR	RM NATIO	ONAL ACCIDENT SAM CRASHWORTHINESS	MPLING SYSTEM
1. Primary Same	olina Unit Number		\$	SPECIAL STU	DIES - INDICAT	
2. Case Number			has be	en completed; c	study (SS14-SS18 code 1 for the chec pecial studies not o	ked special
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				nber of Recorded his Accident	I Events	02
			Cod	e the number of	events which occu	urred
				nis accident.		
		ACCIDE	NT EVENT	TS		
For each event t involved vehicle	hat occurred in the or object on the rig	e accident, code the ht.	lowest num	nbered vehicle in	the left columns ar	nd the other
Accident Event		0. 0.	General	Vehicle Numbe		General
Sequence Number	Vehicle Number	Class Of Vehicle	Area of Damage	or Object Contact	Class Of ed Vehicle	Area of Damage
12. <u>0</u> <u>1</u>	13	14.03	15. 📙	16. 02	- 17. <u>03</u>	18. B
19. 0 2	20. 🔘 📗	21. <u>03</u>	22. <u>F</u>	23. <u>56</u>	24. <u>O</u> <u>O</u>	25.
26. <u>0</u> <u>3</u>	27	28	29	30	31	32
33. <u>0 4</u>	34	35	36	37	38	39
40. <u>0</u> <u>5</u>	41	42	43	44	45	46
IF GREA	ATER THAN FIVE E	VENTS, CONTINUE (CODING ON	THE ACCIDENT E	EVENT SUPPLEMEN	т

CODES FOR CLASS OF VEHICLE

- (00) Not a motor vehicle
- (01) Subcompact/mini (wheelbase < 254 cm)
- (02) Compact (wheelbase ≥ 254 but < 265 cm)
- (03) Intermediate (wheelbase ≥ 265 but < 278 cm)
- (04) Full size (wheelbase ≥ 278 but < 291 cm)
- (05) Largest (wheelbase ≥ 291 cm)
- (09) Unknown passenger car size
- (11) Compact utility vehicle
- (12) Large utility vehicle (≤ 4,500 kgs GVWR)
- (13) Passenger van (≤ 4,500 kgs GVWR)
- (14) Other van (≤ 4,500 kgs GVWR)
- (15) Pickup truck (≤ 4,500 kgs GVWR)
- (18) Other truck (≤ 4,500 kgs GVWR)
- (19) Unknown light truck type
- (20) School bus
- (21) Other bus
- (22) Truck (> 4,500 kgs GVWR)
- (23) Tractor without trailer
- (24) Tractor-trailer(s)
- (25) Motored cycle
- (28) Other vehicle
- (99) Unknown

CODES FOR GENERAL AREA OF DAMAGE (GAD)

CDS APPLICABLE AND OTHER VEHICLES

TDC APPLICABLE VEHICLES

- (0) Not a motor vehicle
- (N) Noncollision
- (F) Front
- (R) Right side
- (L) Left side
- (B) Back
- (T) Top
- (U) Undercarriage
- (9) Unknown

- (0) Not a motor vehicle
- (N) Noncollision
- (F) Front
- (R) Right side
- (L) Left side
- (B) Back of unit with cargo area (rear of trailer or straight truck)
- (D) Back (rear of tractor)
- (C) Rear of cab
- (V) Front of cargo area
- (T) Top
- (U) Undercarriage
- (9) Unknown

CODES FOR VEHICLE NUMBER OR OBJECT CONTACTED

(01-30) - Vehicle Number

Noncollision

- (31) Overturn rollover
- (32) Fire or explosion
- (33) Jackknife
- (34) Other intraunit damage (specify):
- (35) Noncollision injury
- (38) Other noncollision (specify):
- (39) Noncollision details unknown

Collision With Fixed Object

- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post

- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail) (specify): auardrail

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify):
- (69) Unknown fixed object

Collision with Nonfixed Object

- (71) Motor vehicle not in-transport
- (72) Pedestrian
- (73) Cyclist or cycle
- (74) Other nonmotorist or conveyance
- (75) Vehicle occupant
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify):
- (89) Unknown nonfixed object
- (98) Other event (specify):
- (99) Unknown event or object

National Highway Traffic Safety Administration	GENERAL VE	HICLE FOR	M NATIONAL ACCIDENT S CRASHWORTHINE	AMPLING SYSTE SS DATA SYSTE
 Primary Sampling Unit Number Case Number - Stratum Vehicle Number VEHICLE IDENTIFIC	<u> </u>	(0) No alc (1) Yes (a (7) Not re (8) No dri (9) Unkno	orted Alcohol Presence ohol present Icohol present) ported ver present	T
4. Vehicle Model Year Code the last two digits of the r (99) Unknown 5. Vehicle Make (specify): Applicable codes are found in your NASS Data Collection, Coding a Editing Manual. (99) Unknown	Sour and	(Pag 12. Alcohol Te. Code actua before first (95) Test r (96) None (97) AC te. (98) No dri (99) Unkno	ge 4) for information on O st Result For Driver al value (decimal implied digit—0.xx) efused given st performed, results unkr	96
6. Vehicle Model (specify): 5C - 4 Applicable codes are found in your NASS Data Collection, Coding a Editing Manual. (999) Unknown	$\frac{033}{000}$	13. Speed Limi (000) No s Code poste in kph (999) Unki	statutory limit	072 ontrary tolice rep
7. Body Type Note: Applicable codes may be the back of this page.	found on	14. Attempted (01) No avo	Avoidance Maneuver oidance actions g (no lockup)	police report
8. Vehicle Identification Number T 1 8 4 5 6 7 8 8 10 11 Left justify; Slash zeros and lette No VIN—Code all zeros Unknown—Code all nines	·	(05) Releas (06) Steerii (07) Steerii (08) Brakin (09) Brakin (10) Accele (11) Accele	g (lockup unknown) sing brakes ng left ng right g and steering left g and steering right erating and steering right	
9. Police Reported Vehicle Disposit (0) Not towed due to vehicle damag (1) Towed due to vehicle damag (9) Unknown	ion	(97) No dri (98) Other (99) Unkno		 20
10. Police Reported Travel Speed Code to the nearest kph (NOTE: less than 0.5 kph) (160) 159.5 kph and above (999) Unknown mph X 1.6093 =kp		back of pag (00) No imp Code the no best describ	codes may be found on the two of this field form pact umber of the diagram that pes the accident circumstanceident type (specify):	
**** SKIP TO VAR	IABLE GV37 IF G	V07 DOES NO	OT EQUAL 01-49 ***	*

CDS APPLICABLE VEHICLES

Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify):
- (09) Unknown automobile type

Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

Utility Vehicles (≤ 4,500 kgs GVWR)

- (14) Compact utility (Jeep CJ-2 CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before), Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Landcruiser, Rover, Scout)
- Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

Van Based Light Trucks (≤ 4,500 kgs GVWR)

- (20) Minivan (Chrysler Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Dodge/Plymouth Vista, Aerostar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van (≤ 4,500 kgs GVWR)
- (23) Van based motorhome (≤ 4,500 kgs GVWR)
- (24) Van based school bus (≤ 4,500 kgs GVWR)
- (25) Van based other bus (≤ 4,500 kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify):
- (29) Unknown van type

Light Conventional Trucks (Pickup style cab, \leq 4,500 kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500,)

- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

Other Light Trucks (≤ 4,500 kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41)Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49)Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- Other bus type (e.g., transit, intercity, bus based motorhome) (specify):
- (59) Unknown bus type

Medium/Heavy Trucks (> 4,500 kgs GVWR)

- (60) Step van (> 4,500 kgs GVWR)
- (61) Single unit straight truck (4,500 kgs < GVWR ≤ 8,850 kgs)
- (62) Single unit straight truck (8,850 kgs < GVWR ≤ 12,000 kgs)
- (63)Single unit straight truck (> 12,000 kgs GVWR)
- (64)Single unit straight truck, GVWR unknown
- (65)Medium/heavy truck based motorhome
- (67)Truck-tractor with no cargo trailer (68)
- Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer) (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify):
- (89) Unknown motored cycle type

Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

Nati	onal Accident Sampling System-Crashworthiness Dat	a System: General Vehicle Form	Page
	OCCUPANT RELATED	24. Rollover	0
16.	Driver Presence in Vehicle (0) Driver not present (1) Driver present (9) Unknown	(0) No rollover (no overturning) Rollover (primarily about the longitudinal axis) (1) Rollover, 1 quarter turn only (2) Rollover, 2 quarter turns	
17.	Number of Occupants This Vehicle (00-96) Code actual number of occupants for this vehicle (97) 97 or more (99) Unknown	(3) Rollover, 2 quarter turns (4) Rollover, 4 or more quarter turns (specify) ———————————————————————————————————	:
18.	Number of Occupant Forms Submitted 02	about the lateral axis) (9) Rollover (overturn), details unknown	
	VEHICLE WEIGHT ITEMS	OVERRIDE/UNDERRIDE (THIS VEHICLE	=)
19.	Vehicle Curb Weight Code weight to nearest Code weight to nearest	25. Front Override/Underride (this Vehicle)	0
	10 kilograms. (045) Less than 450 kilograms (610) 6,100 kilograms or more	26. Rear Override/Underride (this Vehicle)	<u></u>
	(999) Unknown 3.591 lbs x .4536 = 1.631 kgs	(0) No override/underride, or not an end-to-end impact	
	Source	Override (see specific CDC) (1) 1st CDC	
20.	Vehicle Cargo Weight Code weight to nearest 10 kilograms.	(2) 2nd CDC (3) Other not automated CDC (specify):	
	(000) Less than 5 kilograms (450) 4,500 kilograms or more (999) Unknown	Underride (see specific CDC) (4) 1st CDC (5) 2nd CDC	
	,lbs X .4536 =, kgs	(6) Other not automated CDC (specify):	
21.	Towed Trailing Unit (0) No towed unit	(7) Medium/heavy truck or bus override (9) Unknown	
	(1) Yes—towed trailing unit		
	(9) Unknown	HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V	
	Documentation of Trajectory Data for This Vehicle (0) No (1) Yes	Values: (000)-(359) Code actual value (997) Noncollision (998) Impact with object (999) Unknown	
23.	Post Collision Condition of Tree or Pole (For Highest Delta V) (0) Not collision (for highest delta V) with	27. Heading Angle For This Vehicle	5
	tree or pole (1) Not damaged (2) Cracked/sheared (3) Tilted <45 degrees (4) Tilted ≥45 degrees (5) Uprooted tree (6) Separated pole from base (7) Pole replaced (8) Other (specify):	28. Heading Angle For Other Vehicle Ω	<u>O</u>
L	(9) Unknown		

Cate- gory	Configur- ation	ACCIDENT TYPES (Includes Intent)		
12	A. Right Roadside Departure	DRIVE OFF CONTROL/ AVOID COLLISION SPI	CIFICS 1	06 BPECIFICS JNKNOWN
I. Single Driver	B. Left Roadside Departure	DRIVE OFF CONTROL/ AVOID COLLISION SPI	ECIFICS S	IO SPECIFICS JNKNOWN
	C Forward Impact	ANISAA	1 ECIFICS	6 SPECIFICS UNKNOWN
licway tum	D Reur-End	20 22 24 26 28 30 (E/ 21 23 27 27 27 31 SPI	ACH • 32) (EACH • 33)
II. Same Trafficway Same Direction	f: Forward Impact	CONTROL/ CONTROL/ AVOID COLLISION AVOID COLLISION WITH VEH. WITH OBJECT) (EACH • 4:	2) (EACH • 43) SPECIFICS UNKNOWN
	F. Sideswipe Angle	44 45 45 45 (EACH • 48) SPECIFICS OTHER	(EACH SPECIFIC	
vay ction	G Head-On	50 51 (EACH • 52) (EACH • 53) SPECIFICS OTHER SPECIFICS UNKNOWN		
Same Traffick ay Oppiyate Direction	H Forward Impact	CONTROL/ TRACTION LOSS 56 57 58 59 60 60 60 60 60 60 60 60 60 6	1	2)(EACH • 63) SPECIFICS UNKNOWN
111	I. Sideswipe' Angle	65 (EACH • 66) (EACH • 67) SPECIFICS SPECIFICS UNKNOWN OTHER		
Change Trafficway Vehicle Turning	J. Turn Across Path	69 71 70 73 72 INITIAL OPPOSITE INITIAL SAME DIRECTIONS DIRECTIONS	SPECIFICS	(EACH • 75)
IV. Change Vehicle	K. Turn Into Path	76 78 81 82	OTHER (EACH • 84 SPECIFICS	J (EACH • 85)
V Intersecting Paths 1 (Vehicle Damage)	L. Straight Paths	TURN INTO SAME DIRECTION TURN INTO OPPOSITE DIRECTIONS (EACH • 90) 88 89 SPECIFICS OTHER	OTHER (EACH • 91 SPECIFICS U	UNKNOWN
VI. Miscel- lancous	M. Backing Eic.	92 93 CTI OTHER VEH. 98 Other Accident 99 Unknown Accident VEH. 00 No Impact	Type ent Type	

1		1	
2	9. Basis for Total Delta V (highest)	22	Highest + 9 9 9
	Delta V Calculated	32.	Lateral Component of Delta V 9 9
	(1) CRASH program—damage only routine(2) CRASH program—damage and trajectory		Nearest kph (highest)
	routine (3) Missing vehicle algorithm		Nearest kph (secondary)
	Delta V Not Calculated (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.		(NOTE:000 means greater than0.5 kph and less than +0.5 kph) (±160) ±159.5 kph and above (999) Unknown
	(5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision	33.	Energy Absorption $9999, 900$
	conditions is beyond the scope of the CRASH program or other acceptable reconstruction		Nearest 100 joules (highest)
	technique, regardless of adequacy of damage data.		Nearest 100 joules (secondary)
	(6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.		(NOTE: 0000 means less than 50 joules) (9997) 999,650 joules or more (9999) Unknown
	COMPUTER GENERATED DELTA V	34.	Confidence In Reconstruction Program Results (For Highest Delta V)
30	Nearest kph (highest) Nearest kph (secondary)		 (0) No reconstruction (1) Collision fits model — results appear reasonable (2) Collision fits model — results appear high (3) Collision fits model — results appear low (4) Borderline reconstruction — results appear reasonable
	(NOTE: 000 means less than 0.5 kph) (160) 159.5 kph and above (999) Unknown	35.	Type of Vehicle Inspection (0) No inspection (1) Complete inspection
31	. Longitudinal Component of + 999	36.	(2) Partial inspection (specify): Is this an AOPS Vehicle?
	Nearest kph (highest)		(0) No
	Nearest kph (secondary)		(1) Yes - researcher determined (2) VIN determined air bag system (2) VIN determined air bag system
	(NOTE:000 means greater than0.5 kph and less than +0.5 kph) (±160) ±159.5 kph and above (999) Unknown		 (3) VIN determined automatic (passive) belts (4) VIN determined air bag and automatic (passive) belts
	IS OLDMISS APPLICABLE FOR T	HIS	VEHICLE? [] YES [¥] NO
	IF YES: IS A COMPLETED OLDMISS PROGRA		•

	1 Page
37. Police Reported Other Drug Presence (0) No other drug(s) present (1) Yes [other drug(s) present]	DRUG EVALUATION CLASSIFICATION OTHER DRUGS TEST RESULTS FOR DRIVER
(7) Not reported (8) No driver present (9) Unknown	DEC Specimen Test Test Results Results Narcotic Drug 40. 0 41. 0
38. Police Reported Drug Evaluation Classification (DEC) Test For Driver (0) No DEC process available or given (1) DEC process given, results known (2) DEC process given, results unknown (3) DEC process available, unknown if given (8) No driver present	Depressant Drug Stimulant Drug Hallucinogen Drug Cannabinoid Drug Phencyclidine (PCP) Inhalant Drug Other Drug (Excluding Nicotine, Aspirin, Alcohol, Drugs Administered Post-Crash)
39. Other Drug Specimen Test Type For Driver (0) No specimen test given (1) Blood test (2) Urine test (3) Other specimen tests (specify): (7) Unspecified specimen test (8) No driver present (9) Unknown if specimen test given	Codes For DEC Test Results (0) No DEC test given (1) Passed DEC test (2) Failed DEC test (3) DEC test given—results unknown (8) No driver present (9) Unknown if DEC test given Codes for Specimen Test Results (0) No specimen test given (1) Drug not found in specimen (2) Drug found in specimen (7) Specimen test given, results unknown or not obtained (8) No driver present (9) Unknown if specimen test given

CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

(00) No rollover	(57) Fence
(01-30) — Vehicle Number	(58) Wall
	(59) Building
Noncollision	(60) Ditch or culvert
(31) Turn-over — fall-over	(61) Ground
(33) Jackknife	(62) Fire hydrant
•	(63) Curb
Collision With Fixed Object	(64) Bridge
(41) Tree (≤ 10 cm in diameter)	(68) Other fixed object (specify):
(42) Tree (> 10 cm in diameter)	(00) 00:00 00:00 (000:00)
(43) Shrubbery or bush	(69) Unknown fixed object
(44) Embankment	(00) Chikhowh hadd object
() / Lindankinding	Collision with Nonfixed Object
(45) Breakaway pole or post (any diameter)	
(45) Dieakaway pole of post (ally diaffeter)	(71) Motor vehicle not in-transport
Nonbrookeyyey Dala or Dock	(76) Animal
Nonbreakaway Pole or Post	(77) Train
(50) Pole or post (≤ 10 cm in diameter)	(78) Trailer, disconnected in transport
(51) Pole or post (> 10 cm but \leq 30 cm in	(79) Object fell from vehicle in-transport
diameter)	(88) Other nonfixed object (specify):
(52) Pole or post (> 30 cm in diameter)	
(53) Pole or post (diameter unknown)	(89) Unknown nonfixed object
(54) Concrete traffic barrier	(98) Other event (specify):
(55) Impact attenuator	(00) 00.00 010.00 (0)
(56) Other traffic barrier (includes guardrail)	(99) Unknown event or object
(specify):	—

OTHER DATA	61. Rollover Initiation Object Contacted
56. Driver's Zip Code	OT. Honover initiation Object Contacted
(00000) Driver not present (00001) Driver not a resident of U.S. or territories Code actual 5-digit zip code (99999) Unknown	62. Location on Vehicle Where Initial Principal Tripping Force Is Applied (0) No rollover (1) Wheels/tires
57. Driver's Race/Ethnic Origin (0) Driver not present (1) White (non-Hispanic) (2) Black (non-Hispanic) (3) White (Hispanic) (4) Black (Hispanic) (5) American Indian, Eskimo or Aleut (6) Asian or Pacific Islander (8) Other (specify):	(2) Side plane (3) End plane (4) Undercarriage (5) Other location on vehicle (specify): (8) Non-contact rollover forces (specify): (9) Unknown
(9) Unknown 58. Vehicle Special Use (This Trip) (0) No special use (1) Taxi (2) Vehicle used as school bus (3) Vehicle used as other bus (4) Military (5) Police (6) Ambulance	 (0) No rollover (1) Roll right - primarily about the longitudinal axis (2) Roll left - primarily about the longitudinal axis (5) End-over-end (i.e., primarily about the lateral axis) (9) Unknown roll direction
(7) Fire truck or car	PRECRASH DATA
(8) Other (specify):(9) Unknown	64. Pre-Event Movement (Prior to Recognition of Critical Event)
ROLLOVER DATA	(01) Going straight
If GV07 (Body Type) \neq 1-49, leave GV59-GV63 blank. If GV24 (Rollover) = 0, then GV59-GV63 must equal 0. If GV24 = 9, then GV59-GV63 must equal 9.	 (02) Slowing or stopping in traffic lane (03) Starting in traffic lane (04) Stopped in traffic lane (05) Passing or overtaking another vehicle
59. Rollover Initiation Type (0) No rollover (1) Trip-over (2) Flip-over (3) Turn-over (4) Climb-over (5) Fall-over (6) Bounce-over (7) Collision with another vehicle (8) Other rollover initiation type specify): (9) Unknown rollover initiation type	(06) Disabled or parked in travel lane (07) Leaving a parking position (08) Entering a parking position (09) Turning right (10) Turning left (11) Making a U-turn (12) Backing up (other than for parking position) (13) Negotiating a curve (14) Changing lanes (15) Merging (16) Successful avoidance maneuver to a previous critical event (97) Other (specify):
60. Location of Rollover Initiation	(98) No driver present (99) Unknown
 (0) No rollover (1) On roadway (2) On shoulder—paved (3) On shoulder—unpaved (4) On roadside or divided trafficway median (9) Unknown 	

55555461151	TA /A .: II
	ATA (Continued)
7 This Vehicle Loss of Control Due To: (01) Blow out or flat tire (02) Stalled engine (03) Disabling vehicle failure (e.g., wheel fell off) (specify): (04) Non-disabling vehicle problem (e.g., hood flew up) (specify):	Pedestrian or Pedalcyclist, or Other Nonmotorist (80) Pedestrian in roadway (81) Pedestrian approaching roadway (82) Pedestrian—unknown location (83) Pedalcyclist or other nonmotorist in roadway (specify): (84) Pedalcyclist or other nonmotorist approaching roadway (specify): (85) Pedalcyclist or other nonmotorist—unknown
 (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): (06) Traveling too fast for conditions (08) Other cause of control loss (specify): 	location (specify): Object or Animal (87) Animal in roadway
(09) Unknown cause of control loss	(88) Animal approaching roadway (89) Animal—unknown location (90) Object in roadway
This Vehicle Traveling (10) Over the lane line on left side of travel lane (11) Over the lane line on right side of travel lane	(91) Object approaching roadway (92) Object—unknown location
 (12) Off the edge of the road on the left side (13) Off the edge of the road on the right side (14) End departure (15) Turning left at intersection 	(98) Other critical precrash event (specify): (99) Unknown
(16) Turning right at intersection (17) Crossing over (passing through) intersection (19) Unknown travel direction	For Corrective Actions Attempted see variable GV14 (Attemped Avoidance Manuever)
Other Motor Vehicle In Lane (50) Stopped (51) Traveling in same direction with lower speed (i.e., lower steady speed or decelerating) (52) Traveling in same direction with higher speed (53) Traveling in opposite direction (54) In crossover (55) Backing (59) Unknown travel direction of other motor vehicle in lane	66. Precrash Stability After Avoidance Maneuver (0) No avoidance maneuver (1) Tracking (2) Skidding longitudinally—rotation less than 30 degrees (3) Skidding laterally—clockwise rotation (4) Skidding laterally—counterclockwise rotation (7) Other vehicle loss-of-control (specify):
Other Motor Vehicle Encroaching Into Lane (60) From adjacent lane (same direction)—over left lane line (61) From adjacent lane (same direction)—over right	(8) No driver present (9) Precrash stability unknown
lane line (62) From opposite direction—over left lane line (63) From opposite direction—over right lane line (64) From parking lane (65) From crossing street, turning into same direction (66) From crossing street, across path (67) From crossing street, turning into opposite direction (68) From crossing street, intended path not known (70) From driveway, turning into same direction (71) From driveway, turning into opposite direction (72) From driveway, turning into opposite direction (73) From driveway, intended path not known	67. Precrash Directional Consequences of Avoidance Maneuver (Corrective Action) (0) No avoidance maneuver (1) Vehicle stayed in travel lane where avoidance maneuver was initiated (2) Vehicle stayed on roadway but left travel lane where avoidance maneuver was initiated (3) Vehicle stayed on roadway, not known if left travel lane where avoidance maneuver was initiated (4) Vehicle departed roadway (5) Avoidance maneuver initiated off roadway

*** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), *** DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

(74) From entrance to limited access highway

(78) Encroachment by other vehicle—details

unknown

*** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE *** THE EXTERIOR VEHICLE, INTERIOR VEHICLE,

(8) No driver present

(9) Directional consequences unknown

ORIGINAL SPECIFICATIONS WORK SHEET

Wheelbase	105.9 inches		268.9 cm
Overall Length	191.3 inches	x 2.54 =	485.9 cm
Maximum Width	$\underline{10.5}$ inches	x 2.54 =	179 cm
Curb Weight	3.597 pounds	x .4536 =	1.63 1.9kg
Average Track	59.81.60 inches	x 2.54 =	152 cm
Front Overhang	$\underline{-40.2}$ inches	x 2.54 =	$102 \mathrm{cm}$
Rear Overhang	$\underline{\hspace{0.5cm}}$ $\underline{\hspace{0.5cm}}$ $\underline{\hspace{0.5cm}}$ $\underline{\hspace{0.5cm}}$ $\underline{\hspace{0.5cm}}$ inches	x 2.54 =	17.cm
Undeformed End Width	N/R inches	x 2.54 =	N/A cm
Engine Size: cyl./displ.	4 \$ \$ \$ cc	x .001 =	<u>4.0</u> L
	<u> 245</u> cid	x .0164 =	<u>4</u> . <u>ø</u> L

VEHICLE DAMAGE SKETCH TIRE-WHEEL DAMAGE **ORIGINAL SPECIFICATIONS** WHEEL STEER ANGLES a. Rotation physically b. Tire (For locked front wheels or restricted deflated Wheelbase cm displaced rear axles only) RF ± **Overall Length** cm RF LF ± Maximum Width RR ± cm **Curb Weight** kg Within ± 5 degrees Average Track cm (1) Yes (2) No (8) NA (9) Unk. **DRIVE WHEELS** Front Overhang cm Rear Overhang ☑ FWD □ RWD □ 4WD cm TYPE OF TRANSMISSION **Undeformed End Width** cm **Approximate** ☐ Manual **M** Automatic Engine Size: cyl./displ. 4.0 Cargo Weight UNK kg **MEASUREMENTS IN CENTIMETERS** Jehicle Disassembled At time of inspection

NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

CDC WORKSHEET						
	CODES FOR O	BJECT CONT	ACTED			
Noncollision (31) Overturn — rollover (32) Fire or explosion (33) Jackknife (34) Other intraunit damage (spe (35) Noncollision injury (38) Other noncollision (specify): (39) Noncollision — details unkn Collision With Fixed Object (41) Tree (≤ 10 cm in diameter)	cify):	(57) (58) (59) (60) (61) (62) (63) (64) (68) (69) Collisio (71) (72)	Fence Wall Building Ditch or Ground Fire hydr Curb Bridge Other fix Unknown n with No Motor ve	ed object (so n fixed object enfixed Object shicle not in	ct	
(42) Tree (> 10 cm in diameter)(43) Shrubbery or bush		(73) (74)	Cyclist o	r cycle onmotorist o	r conveyand	e.
(44) Embankment					Conveyant	
(45) Breakaway pole or post (and Nonbreakaway Pole or Post (50) Pole or post (≤ 10 cm in di (51) Pole or post (> 10 cm but diameter) (52) Pole or post (> 30 cm in di (53) Pole or post (diameter unknounce) (54) Concrete traffic barrier (55) Impact attenuator (56) Other traffic barrier (include (specify):	ameter) ≤ 30 cm in ameter) own)	(76) (77) (78) (79) (88) (89)	Object for Other no Unknown Other ev	lisconnected	r):	
DEFORM	IATION CLASSI	FICATION BY	EVENT N	IIMRER		
Accident Event Sequence Number Contacted O (1) (2) Direction of Force (degrees) O O O O O O O O O O O O O	Incremental	(3) Lo Deformation c	(4) Specific ongitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

Accident
Event
Sequence
Number

Object Contacted

(1)(2)Direction of Force

(3) Deformation Location

(4) Longitudinal or Lateral Location

(5) Vertical or Lateral Location

(6) Type of Damage Distribution

(7) **Deformation** Extent

5.02 6.12 7.F 8.Z 9.E 10.W 11.01

Second Highest Delta "V"

12.02 13.56 14.12 15.F

CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

HIGHEST DELTA "V"

 C_2

22. ±D

"CDC ONLY"

Second Highest Delta "V"

24.

25. ±D

"CDC ONLY

26. Are CDCs Documented but Not Coded on The Automated File? (O) No

(1) Yes



27. Researcher's Assessment

of Vehicle Disposition

- (0) Not towed due to vehicle damage
- (1) Towed due to vehicle damage
- (9) Unknown

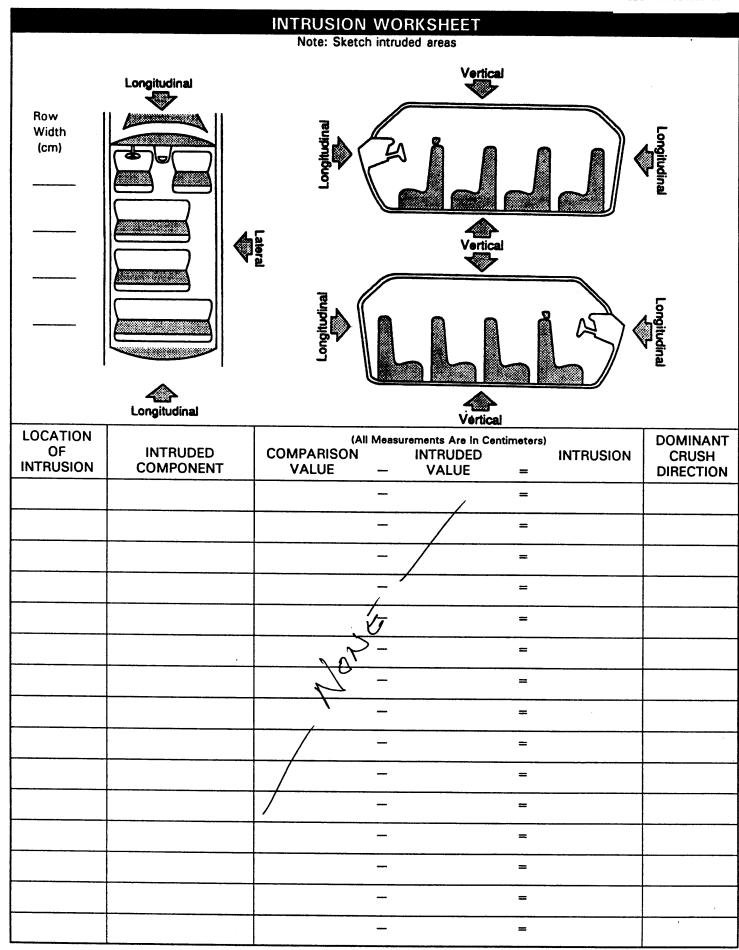
28. Original Wheelbase Code to the

nearest centimeter (999) Unknown

 $1 \phi 5$. 9 inches x 2.54 = 2 6 9 centimeters

29.	Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? (0) No post manufacturer modifications (1) Yes - post manufacturer modifications (specify): (Include photograph of CERTIFICATION PLACARD in case report) (9) Unknown if vehicle is modified	<u>D</u>	34. Fuel Tank-1 Location 35. Fuel Tank-2 Location (0) No fuel tank (1) Aft of center of the rear wheels (rear axle) centered (2) Aft of center of the rear wheels (rear axle) left side (3) Aft of center of the rear wheels (rear axle) right side (4) Forward of center of the rear wheels (rear
30.	Fire Occurrence (0) No fire Yes, fire occurred (1) Minor (2) Major (9) Unknown	<u>Q</u>	axle) centered (5) Forward of center of the rear wheels (rear axle) left side (6) Forward of center of the rear wheels (rear axle) right side (7) Over center of the rear wheels (rear axle) (8) Other (specify): (9) Unknown
32.	Origin of Fire (0) No fire (1) Vehicle exterior (front, side, back, top) (2) Exhaust system (3) Fuel tank (and other fuel retention system parts) (4) Engine compartment (5) Cargo/trunk compartment (6) Instrument panel (7) Passenger compartment area (8) Other location (specify): (9) Unknown Type of Fuel Tank-1 Type of Fuel Tank-2 (0) No fuel tank (electrical vehicle) (1) Metallic (2) Non-metallic (9) Unknown	0	36. Fuel Tank-1 Filler Cap Location 37. Fuel Tank-2 Filler Cap Location (0) No fuel tank (1) On back plane (2) Aft of center of the rear wheels (rear axle) on left side plane (3) Aft of center of the rear wheels (rear axle) on right side plane (4) Forward of center of the rear wheels (rear axle) on left side plane (5) Forward of center of the rear wheels (rear axle) on right side plane (6) Over the center of the rear wheels (rear axle) on left side plane (7) Over the center of the rear wheels (rear axle) on left side plane (8) Other (specify): (9) Unknown 38. Fuel Tank-1 Damage 39. Fuel Tank-2 Damage (0) No fuel tank (1) No damage to fuel tank (2) Deformed, no seam failure (3) Deformed, with a seam failure (4) Punctured (5) Lacerated (ripped) (6) Abraded (scraped) (7) Filler neck separation from the fuel tank (8) Other damage (specify):
			(9) Unknown

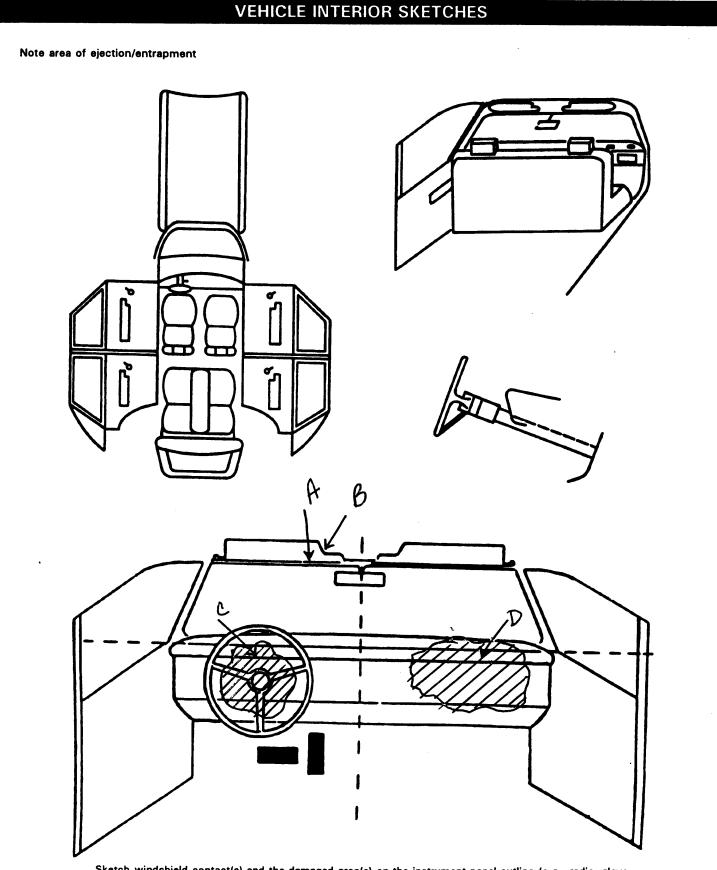
ational Highway Traffic Safety dministration	INTERIOR VE	HICLE FORM NATIONAL ACCIDENT SAMPLING SYSTE CRASHWORTHINESS DATA SYSTE
1 Driver Complies Heis Months		GLAZING
Case Number - Stratum Vehicle Number	-AB-16 01	Glazing Damage from Impact Forces 15. WS 016. LF 017. RF 018. LR 09. RR 20. BL 21. Roof 22. Other
INTEGRITY		(0) No glazing damage from impact forces
4. Passenger Compartment Integrity (00) No integrity loss Yes, Integrity Was Lost Through (01) Windshield (02) Door (side) (03) Door/hatch (back door) (04) Roof (05) Roof glass (06) Side window	<u>00</u>	 (2) Glazing in place and cracked from impact forces (3) Glazing in place and holed from impact forces (4) Glazing out-of-place (cracked or not) and not holed from impact forces (5) Glazing out-of-place and holed from impact forces (6) Glazing disintegrated from impact forces (7) Glazing removed prior to accident (8) No glazing (9) Unknown if damaged
(07) Rear window (backlight) (08) Roof and roof glass (09) Windshield and door (side) (10) Windshield and roof (11) Side and rear window (side window a (12) Windshield and side window (13) Door and side window (98) Other combination of above (specify):	•	Glazing Damage from Occupant Contact 23. WS 24. LF 25. RF 26. LR 27. RR 28. BL 29. Roof 30. Other (0) No occupant contact to glazing or no glazing (1) Glazing contacted by occupant but no glazing damage (2) Glazing in place and cracked by occupant contact (3) Glazing in place and holed by occupant contact (4) Glazing out-of-place (cracked or not) by occupant contact contact and not holed by occupant contact (5) Glazing out-of-place by occupant contact and holed by
Door, Tailgate or Hatch Opening 5. LF 6. RF 7. LR 8. RR	<u>)</u> 9. т <u>G</u> /H	occupant contact (6) Glazing disintegrated by occupant contact (9) Unknown if contacted by occupant
 (0) No door/gate/hatch (1) Door/gate/hatch remained closed and c (2) Door/gate/hatch came open during coll (3) Door/gate/hatch jammed shut 		If No Glazing Damage <i>And</i> No Occupant Contact or No Glazing, Then Code IV31 Through IV46 As Ø Type of Window/Windshield Glazing
(8) Other (specify): (9) Unknown		31. WS / 32. LF / 33. RF / 34. LR / 35. RR / 36. BL / 37. Roof / 38. Other /
Damage/Failure Associated with Door, Opening in Collision. If IV05-IV09 \neq 210. LF \bigcirc 11. RF \bigcirc 12. LR \bigcirc 13. RF	2, Then code Ø	 (0) No glazing contact and no damage, or no glazing (1) AS-1 — Laminated (2) AS-2 — Tempered (3) AS-3 — Tempered-tinted (4) AS-14 — Glass/Plastic (8) Other (specify):
(0) No door/gate/hatch or door not opened Door, Tailgate or Hatch Came Open During (1) Door operational (no damage) (2) Latch/striker failure due to damage (3) Hinge failure due to damage (4) Door structure failure due to damage (5) Door support (i.e., pillar, sill, roof side etc.) failure due to damage	Collision	(9) Unknown Window Precrash Glazing Status 39. WS
(6) Latch/striker and hinge failure due to d (8) Other failure (specify): (9) Unknown	lamage	(0) No glazing contact and no damage, or no glazing (1) Fixed (2) Closed (3) Partially opened (4) Fully opened (9) Unknown



			occu	PANT AF	REA INTRUSION
Note: If no intrusions, leave variables IV47-IV86 blank.				86 blank.	INTRUDING COMPONENT
	Location of Intrusion		Magnitude of Intrusion	Dominant Crush Direction	Interior Components (01) Steering assembly (02) Instrument panel left
1st	47	48	49	50	(03) Instrument panel center (04) Instrument panel right (05) Toe pan (06) A (A1/A2)-pillar (07) B-pillar
2nd	51	52	53	54	(08) C-pillar (09) D-pillar (10) Door panel (side) (12) Roof (or convertible top)
3rd	55	56	57	58	(13) Roof side rail (14) Windshield (15) Windshield header (16) Window frame
4th	59	60	61	62	(17) Floor pan (includes sill) (18) Backlight header (19) Front seat back (20) Second seat back
5th	63	64	65	66	(21) Third seat back (22) Fourth seat back (23) Fifth seat back
6th	67	68	69	70	(24) Seat cushion (25) Back door/panel (e.g., tailgate) (26) Other interior component (specify):
7th	71	72	73	74	(27) Side panel - forward of the A (A2)-pillar (28) Side panel - rear of the A (A2)-pillar Exterior Components
8th	75	76	_ 77. <u></u>	78	(30) Hood (31) Outside surface of this vehicle (specify):
9th			81		(specify): (33) Unknown exterior object (97) Catastrophic (98) Intrusion of unlisted component(s) (specify):
10th	83	84	_ 85	86	(99) Unknown
Fro Se	Front Seat Fourth Seat (11) Left (41) Left (12) Middle (42) Middle (13) Right (43) Right Second Seat (97) Catastrophic (21) Left (98) Other enclosed (22) Middle (23) Right				MAGNITUDE OF INTRUSION (1) ≥ 3 centimeters but < 8 centimeters (2) ≥ 8 centimeters but < 15 centimeters (3) ≥ 15 centimeters but < 30 centimeters (4) ≥ 30 centimeters but < 46 centimeters (5) ≥ 46 centimeters but < 61 centimeters (6) ≥ 61 centimeters (7) Catastrophic (9) Unknown
Th	ird Seat (31) Left (32) Middle (33) Right	(99)	Unknown		DOMINANT CRUSH DIRECTION (1) Vertical (2) Longitudinal (3) Lateral (7) Catastrophic (9) Unknown

				BEST	AVAILABLE		
STE	ERING	RIM/SPOKE DEFO	RMATIO	N			
(All Measurements Are in Centimeters)							
COMPARISON VALUE		DAMAGE VALUE	, =	DEFORMATION			
		1/	=	. /	/		
			=	1			
<i>P</i>			=				
			=				
				·			
		,					

	STEERING COLUMN		\sim
87.	Steering Column Type (1) Fixed column (2) Tilt column (3) Telescoping column (4) Tilt and telescoping column (8) Other column type (specify): (9) Unknown	<u>2</u> -	93. Location of Steering Rim/Spoke Deformation Quarter Sections (01) Section A (02) Section B (03) Section C (04) Section D Half Sections (05) Upper half of rim/spoke (06) Lower half of rim/spoke (07) Left half of rim/spoke (08) Right half of rim/spoke
88.	Blank (This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.	<u>x x</u>	(09) Complete steering wheel collapse (10) Undetermined location (99) Unknown
89.	Blank	<u> </u>	
	(This variable is left blank		INSTRUMENT PANEL
	so that numbering consistency can be maintained with the 1988-94 CDS.		94. Odometer Reading 99.000
90.	Blank (This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.	<u> </u>	kilometers—Code to the nearest 1,000 kilometers (000) No odometer (001) Less than 1,500 kilometers (500) 499,500 kilometers or more (999) Unknown
01	Disale		Source: <u>Uehicle Dash</u>
91.	Blank (This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.	XXX	Penaled 95. Instrument Panel Damage from Occupant Contact? (0) No (1) Yes (9) Unknown
92.	Steering Rim/Spoke Deformation Code actual measured deformation to the nearest centimeter (00) No steering rim deformation (01-14) Actual measured value in centim (15) 15 centimeters or more (98) Observed deformation cannot be m (99) Unknown		96. Knee Bolsters Deformed from Occupant Contact? (0) No (1) Yes (8) Not present (9) Unknown
			97. Did Glove Compartment Door Open During Collision(s)? (0) No (1) Yes (8) Not present (9) Unknown



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure.

Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.

Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

ational Acci	dent Sampling System-Cr					orm	Pag
	PO	INTS	OF OC	CUPANT CONTA	CT		
Cantant	Interior Occupan Component No. If	it F	Body Region If				Confident Level of Contact
Contact	Contacted Known		nown	Supporting Ph	ysical E	vidence	Point
Α	<u> </u>	Hor	ehoad	depressed	loil	transfer	
B	14 01		ehoad	hair '			
С	45 01	Ha	æ	make up -	tra no	sters	
D	45 02	fa	ce	Deployed	_		i
E				periogen			•
F							
G							
Н							
l			_				<u> </u>
J							
K			· · · · · · · · · · · · · · · · · · ·				<u> </u>
L		_	····				
M							
N							
RONT (01) Wind:	shiald	(23)	Left B-pilla		(46)	Other occupants (s	pecify):
(02) Mirro (03) Sunvi (04) Steer	r sor ing wheel rim	(25)	Left side v	pillar (specify): vindow glass or frame vindow glass including	(47) (48)		
(06) Steer	ing wheel hub/spoke ing wheel (combination des 04 and 05)		frame, wir	re of the following: ndow sill, A (A1/A2)-pillar, roof side rail.	(49)	Other interior objec	t (specify):
(07) Steer selec	ing column, transmission tor lever, other attachment	(27)		side object (specify):	ROOF (50)	Front header	
deck,	on equipment (e.g., CB, tape air conditioner)	(28)	Left side v	vindow sill		Rear header Roof left side rail	
	nstrument panel and below or instrument panel and below	RIGHT		interior out-t	(53)	Roof right side rail	
(11) Right	instrument panel and below	(30)	Right side interior surface, excluding hardware or armrests		(54)	Roof or convertible	top
	compartment door	(31)	Right side	hardware or armrest	FLOOR		
	bolster	(32)) Right A (A1/A2)-pillar		(56)	***************************************	•
of the A (A1	shield including one or more ofollowing: front header, I/A2)-pillar, instrument panel,	(33) (34)		lar t pillar (specify):	(57)	Floor or console mo transmission lever, console	
side d		(35) (36)	_	window glass or frame window glass including		Parking brake handl Foot controls include	
(15) Winds	shield including one or more s following: front header,	•	one or mo	re of the following:	(/	brake	5
A (A1	/A2)-pillar, instrument panel, or			ndow sill, A (A1/A2)-pillar, roof side rail.	REAR		
mirro	r (passenger side only) r side air bag compartment	(37)		t side object (specify):	(60) (61)	Backlight (rear wind Backlight storage ra	
	- ·				(0.7		, 4501, 510

INTERIOR

cover

LEFT SIDE

(17) Passenger side air bag compartment cover

object (specify):

(19) Other front object (specify):

(20) Left side interior surface,

(22) Left A (A1/A2)-pillar

(21) Left side hardware or armrest

(18) Windshield reinforced by exterior

excluding hardware or armrests

(40) Seat, back support

(38) Right side window sill

- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify):_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)
- CONFIDENCE LEVEL OF **CONTACT POINT**
 - (1) Certain

(62) Other rear object (specify):

- (2) Probable
- (3) Possible
- (9) Unknown

AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

AIR BAGS

		Left	Right
F	Availability/Function	1	
R	Deployment		j
S	Failure	1	i

Air Bag System Availability/Function

- (0) Not equipped/not available
- (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):
- (3) Air bag not reinstalled
- (9) Unknown

Air Bag System Deployment

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

Are There Indications of Air Bag System Failure?

- (O) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (9) Unknown

AUTOMATIC BELTS

		Left	Right
	Availability/Function		
F	Use		
R	Туре		
S T	Proper Use		
	Failure Modes		

Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts type unknown

Non-functional

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative)
- (3) Automatic belt use unknown
- (9) Unknown

Automatic (Passive) Belt System Type

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):
- (8) Other improper use of automatic belt system (specify):
- (9) Unknown

Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):
- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other automatic belt failure (specify):
- (9) Unknown

MANUAL RESTRAINTS

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Ocupant Assessment Form.

If a Child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
_	Availability	4	0	4
ï	Evidence of usage	04	Ö	04
R	Used in this crash?	No	00	99
S	Proper Use	0	0	9
	Failure Modes	0	0	9
S	Availability	4	3	4
Ĕ	Evidence of usage	<u>'</u>		,
Ö	Used in this crash?			
SECOZO	Proper Use			
U	Failure Modes			
0	Availability			
Ť	Evidence of usage			
H	Used in this crash?			
E	Proper Use			
R	Failure Modes			

Manual (Active) Belt System Availability

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt (4) Lap and shoulder belt
- (5) Belt available type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):
- (9) Unknown

Manual (Active) Belt System Use

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify):
- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown
- (08) Other belt used (specify):
- Shoulder belt used with child safety seat
- (13)Lap belt used with child safety seat
- (14)Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

Proper Use of Manual (Active) Belts

- (0) None used or not available (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):
- (8) Other improper use of manual belt system (specify):
- (9) Unknown

Manual (Active) Belt Failure Modes During Accident

- (0) No manual belt used or not available (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):
- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other manual belt failure (specify):
- (9) Unknown

000		 	
SAFF	$IV \subseteq A$	ASSES	

When a child safety seat is present enter the occupant	's number in the first row and complete the column below
the occupant's number using the codes listed below.	Complete a column for each child safety seat present.

		1					
Oc	cupant Number						
1.	Type of Child Safety Seat			•			
2.	Child Safety Seat Orientation			1			
3.	Child Safety Seat Harness Usage			Ψ			
4.	Child Safety Seat Shield Usage		/	1			
5.	Child Safety Seat Tether Usage						
6.	Child Safety Seat Make/Model		Specif	y Below fo	or Each Child Safe	ety Seat	
		· · · · · · · · · · · · · · · · · · ·					<u> </u>

- 1. Type of Child Safety Seat
 - (0) No child safety seat
 - (1) Infant seat
 - (2) Toddler seat
 - (3) Convertible seat
 - (4) Booster seat
 - (7) Other type child safety seat (specify):
 - (8) Unknown child safety seat type
 - (9) Unknown if child safety seat used
- 2. Child Safety Seat Orientation
 - (00) No child safety seat

Designed for Rear Facing for

This Age/Weight

- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):
- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):
- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):
- (29) Unknown orientation
- (99) Unknown if child safety seat used

- 3. Child Safety Seat Harness Usage
- 4. Child Safety Seat Shield Usage
- Child Safety Seat Tether Usage Note: Options Below Are Used for Variables 3-5.
 - (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used
- (99) Unknown if child safety seat used

6.	Child Safety Seat Make/Model (Specify make/model and occupant number)						

HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
F	Head Restraint Type/Damage	3	0	3
l R	Seat Type	02	00	02
S	Seat Performance		0	1
•	Seat Orientation		Ŏ	ı
S	Head Restraint Type/Damage	1 -	0	1
E C	Seat Type	03	03	03
0	Seat Performance		1	
D	Seat Orientation	İ		1
т	Head Restraint Type/Damage	/		/
H	Seat Type			
Ř D	Seat Performance			
<i>D</i>	Seat Orientation			
o	Head Restraint Type/Damage			
T H	Seat Type			
E R	Seat Performance			
n	Seat Orientation			/

Head Restraint Type/Damage by Occupant at This Occupant Position

- No head restraints
- (1) Integral no damage
 (2) Integral damaged during accident
- (3) Adjustable no damage
- (4) Adjustable - damaged during accident
- (5)
- Add-on no damage Add-on damaged during accident (6)
- Other Specify): (8)
- (9) Unknown

Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat
- (01)Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07)Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify):
- Box mounted seat (i.e., van type)
- (99) Unknown

Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed specify:
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify):
- (7) Combination of above (specify):
- (8) Other (specify):
- (9) Unknown

Seat Orientation (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify):
- (9) Unknown

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E., UNUSUAL OCCUPANT **CONTACT PATTERN)**

E	JECTION/E	NTRAPM	ENT DAT	ГА			
	Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.						
EJECTION No [Yes [] Describe indications of ejection and		olved in part	ial ejection((s):			
							<i>-</i>
							- -
Occupant Number							
Ejection							
(Note on Vehicle Interior Sketch) Ejection Area							
Ejection Medium							
Medium Status							
Ejection (1) Complete ejection (2) Partial ejection (3) Ejection, Unknown degree (9) Unknown		area (e.g., b , etc.) (spec		(8) O	tegral struc ther mediun	n (specify):	
Ejection Area (1) Windshield (2) Left front (3) Right front (4) Left rear (5) Right rear (6) Rear	Ejection Medium (1) Door/hatch/tailgate (2) Nonfixed roof structure (3) Fixed glazing (4) Nonfixed glazing (specify): Medium Status (Im to Impact) (1) Open (2) Closed (3) Integral structure (9) Unknown		·	rior			
ENTRAPMENT No [V] Yes Describe entrapment mechanism:	• •						
Component(s):							_
(Note in vehicle interior diagram)							

lational Highway Traffic Safety OCCUPANT ASS Administration	O.M.B. No. 2127-002 CRASHWORTHINESS DATA SYSTE
	OCCUPANT'S SEATING
1. Primary Sampling Unit Number	
2. Case Number - Stratum SI-94-AB-16	10. Occupant's Seat Position Front Seat
3. Vehicle Number	(11) Left side (12) Middle
4. Occupant Number	(13) Right side
OCCUPANT'S CHARACTERISTICS	(14) Other (specify):(15) On or in the lap of another occupant
5. Occupant's Age Code actual age at time of accident. (00) Less than one year old (specify by month): (97) 97 years and older (99) Unknown	Second Seat (21) Left side (22) Middle (23) Right side (24) Other (specify): (25) On or in the lap of another occupant
6. Occupant's Sex (1) Male (2) Female (9) Unknown	Third Seat (31) Left side (32) Middle (33) Right side (34) Other (specify): (35) On or in the lap of another occupant
7. Occupant's Height Code actual height to the nearest centimeter. (999) Unknown inches X 2.54 = 170 centimeters	Fourth Seat (41) Left side (42) Middle (43) Right side (44) Other (specify): (45) On or in the lap of another occupant (97) In or on unenclosed area (98) Other seat (specify): (99) Unknown
8. Occupant's Weight Code actual weight to the nearest kilogram. (999) Unknown	11. Occupant's Posture (0) Normal posture
9. Occupant's Role (1) Driver (2) Passenger (9) Unknown	Abnormal posture (1) Kneeling or standing on seat (2) Lying on or across seat (3) Kneeling, standing or sitting in front of seat (4) Sitting sideways or turned to talk with another occupant or to look out a rear window (5) Sitting on a console (6) Lying back in a reclined seat position (7) Bracing with feet or hands on a surface in front of seat (8) Other abnormal posture (specify):

EJEC	CTION/E	NTRAPMENT
12. Ejection (0) No ejection (1) Complete ejection (2) Partial ejection (3) Ejection, unknown degree (9) Unknown	0	15. Medium Status (Immediately Prior To Impact) (0) No ejection (1) Open (2) Closed (3) Integral structure (9) Unknown
13. Ejection Area (0) No ejection (1) Windshield (2) Left front (3) Right front (4) Left rear (5) Right rear (6) Rear (7) Roof (8) Other area (e.g., back of pickup, etc.) (specify): (9) Unknown	0	16. Entrapment (NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.) (0) Not entrapped (1) Entrapped (9) Unknown
14. Ejection Medium (0) No ejection (1) Door/hatch/tailgate (2) Nonfixed roof structure (3) Fixed glazing (4) Nonfixed glazing (specify): (5) Integral structure (8) Other medium (specify): (9) Unknown	Q	

	NESTRAINT SYS	TEM EVALUATION
17.	Manual (Active) Belt System Availability (0) None available (1) Belt removed/destroyed (2) Shoulder belt (3) Lap belt (4) Lap and shoulder belt (5) Belt available—type unknown	21. Air Bag System Availability/Function (0) Not equipped/not available (1) Air bag Non-functional (2) Air bag disconnected (specify):
	Integral Belt Partially Destroyed (6) Shoulder belt (lap belt destroyed/removed) (7) Lap belt (shoulder belt destroyed/removed)	(3) Air bag not reinstalled (9) Unknown
	(8) Other belt (specify):	22. Air Bag System Deployment
	(9) Unknown	(0) Not equipped/not available (1) Air bag deployed during accident (as a result of impact)
18.	Manual (Active) Belt System Use (00) None used, not available, or belt removed/destroyed (01) Inoperative (specify):	 (2) Air bag deployed inadvertently just prior to accident (3) Air bag deployed, accident sequence undetermined (4) Nondeployed
	(02) Shoulder belt (03) Lap belt (04) Lap and shoulder belt (05) Belt used—type unknown (08) Other belt used (specify):	(5) Unknown if deployed (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical) (9) Unknown
	 (12) Shoulder belt used with child safety seat (13) Lap belt used with child safety seat (14) Lap and shoulder belt used with child safety seat (15) Belt used with child safety seat—type unknown (18) Other belt used with child safety seat (specify): (99) Unknown if belt used 	23. Are There Indications of Air Bag System Failure? (0) Not equipped/not available (1) No (2) Yes (specify):
		(9) Unknown
19.	Proper Use of Manual (Active) Belts (0) None used or not available (1) Belt used properly (2) Belt used properly with child safety seat	Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts
	 Belt Used Improperly (3) Shoulder belt worn under arm (4) Shoulder belt worn behind back or seat (5) Belt worn around more than one person (6) Lap belt worn on abdomen (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): 	24. Police Reported Restraint Use (0) None used (1) Police did not indicate restraint use (2) Shoulder belt (3) Lap belt (4) Lap and shoulder belt
	(8) Other improper use of manual belt system (specify):	(5) Belt used, type not specified (6) Child safety seat (7) Other or automatic specific (anality)
	(9) Unknown	(8) Restrained, type unknown (9) Police indicated "unknown"
20.	Manual (Active) Belt Failure Modes During Accident (0) No manual belt used (1) No manual belt failure(s) (2) Torn webbing (stretched webbing not included) (3) Broken buckle or latchplate (4) Upper anchorage separated (5) Other anchorage separated (specify): (6) Broken retractor (7) Combination of above (specify): (8) Other manual belt failure (specify):	
	(9) Unknown	

		HEAD RESTRA	NA TNI	D SEAT EVALUATION
25.	at T (0) (1) (2) (3) (4) (5) (6)	d Restraint Type/Damage by Occupant his Occupant Position No head restraints Integral—no damage Integral—damaged during accident Adjustable—no damage Adjustable—damaged during accident Add-on—no damage Add-on—damaged during accident Other (specify):	3	27. Seat Performance (this Occupant Position) (0) Occupant not seated or no seat (1) No seat performance failure(s) (2) Seat adjusters failed (3) Seat back folding locks or "seat back" failed (specify): (4) Seat track/anchors failed (5) Deformed by impact of occupant (6) Deformed by passenger compartment intrusion (specify):
26.	Seat (00) (01) (02) (03)	Type (this Occupant Position) Occupant not seated or no seat Bucket Bucket with folding back Bench Bench with separate back cushions	22	(7) Combination of above (specify): (8) Other (specify): (9) Unknown
	(05) (06) (07) (08) (09)	Bench with folding back(s) Split bench with separate back cushion Split bench with folding back(s) Pedestal (i.e., column supported) Other seat type (specify): Box mounted seat (i.e., van type) Unknown	IS	
				

	CHIL	SAFE	TY SEAT		
28.	Child Safety Seat Make/Model (000) No child safety seat	<u>O</u> 3	1. Child Safet	y Seat Harness Usage	00
	Applicable codes are found in your NASS CDS Data Collection, Coding and Editing (950) Built-in child safety seat		2. Child Safet	y Seat Shield Usage	00
	(997) Other make/model (specify): (998) Unknown make/model	3:	3. Child Safet	y Seat Tether Usage	00
	(999) Unknown if child safety seat used		Variables O	ons below applicable to A31-OA33. hild safety seat	
29.	Type of Child Safety Seat (0) No child safety seat (1) Infant seat (2) Toddler seat (3) Convertible seat (4) Booster seat (7) Other type child safety seat (specify): (8) Unknown child safety seat type (9) Unknown if child safety seat used	0	(01) After added (02) After (03) Child harne (09) Unknown added Designed W (11) Harne	ed With Harness/Shield/Tetherness/shield/tethern	her her used after market er
30.	Child Safety Seat Orientation (00) No child safety seat Designed for Rear Facing for This Age/Weight (01) Rear facing (02) Forward facing (08) Other orientation (specify): (09) Unknown orientation Designed For Forward Facing for This Age/Weight (11) Rear facing (12) Forward facing (18) Other orientation (specify): (19) Unknown orientation Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight (21) Rear facing (22) Forward facing (23) Other orientation (specify): (29) Unknown orientation (99) Unknown if child safety seat used	<u>O</u>	(19) Unknown II (21) Harne (22) Harne (29) Unknown	ess/shield/tether used own if harness/shield/tether of Designed With Harness/s ess/shield/tether not used ess/shield/tether used own if harness/shield/tether own if child safety seat us	Shield/Tether er used

	IN HIDY CONCECUENCES	
34.	Injury Severity (Police Rating) (0) O - No injury (1) C - Possible injury (2) B - Nonincapacitating injury (3) A - Incapacitating injury (4) K - Killed (5) U - Injury, severity unknown (6) Died prior to accident	28. Working Days Lost Code the number of days (up through 60) that the occupant lost from work due to the accident (00) No working days lost (61) 61 days or more (62) Fatally injured (97) Not working prior to accident (99) Unknown
35.	(9) Unknown Treatment - Mortality (0) No treatment (1) Fatal (2) Fatal - ruled disease (specify):	STOP - GO TO VARIABLE 44 ON PAGE 7 VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER 39. Time to Death Code number of hours from time of
	Nonfatal (3) Hospitalization (4) Transported and released (5) Treatment at scene - nontransported (6) Treatment later (8) Treatment - other (specify): (9) Unknown	accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, n days = 30 + n up through 30 days = 60) (00) Not fatal (96) Fatal - ruled disease (99) Unknown
36.	Type Of Medical Facility (for Initial Treatment) (0) Not treated at a medical facility (1) Trauma center (2) Hospital (3) Medical clinic (4) Physician's office (5) Treatment later at medical facility (8) Other (specify): (9) Unknown	 40. 1st Medically Reported Cause of Death 41. 2nd Medically Reported Cause of Death 42. 3rd Medically Reported Cause of Death Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death (00) Not fatal or no additional causes (96) Mode of death given but specific injuries are not linked to cause
37.	Hospital Stay (00) Not Hospitalized Code the number of days (up through 60) that the occupant stayed in hospital. (61) 61 days or more (99) Unknown	of death. (specify): (97) Other result (includes fatal ruled disease) (specify): (99) Unknown
	-	43. Number of Recorded Injuries for This Occupant Code the actual number of injuries recorded for this occupant. (00) No recorded injuries (97) Injured, details unknown (99) Unknown if injured

ARE ALL APPLICABLE MEDICAL RECORDS INCLUDED WITH INITIAL SUBMISSION?

NO [] YES [X]

UPDATE CANDIDATE?

NO [K] YES []

STOP - VARIABLES 50 THROUGH 53 ARE COMPLETED BY THE ZONE CENTER TRAUMA DATA (2)50. Glasgow Coma Scale (GCS) Score (3) (at Medical Facility) (00) Not injured (01) Injured - not treated at medical facility (02) No GCS Score at medical facility (03-15) Code the actual value of the initial GCS Score recorded at medical facility. (97) Injured, details unknown (99) Unknown if injured 51. Was the Occupant Given Blood? (1) No - blood not given (2) Yes - blood given (specify units): (9) Unknown if blood given 52. Arterial Blood Gases (ABG) - HCO3 (00) Not injured (01) Injured, ABGs not measured or reported (02-50) Code the actual value of theHCO3 (96) ABGs reported, HCO3 unknown (97) Injured, details unknown (99) Unknown if injured

BELT USE DETERMINATION

- 53. Primary Source of Belt Use Determination (0) Not equipped/not available/destroyed or rendered inoperative
 - Vehicle inspection
 - Official injury data
 - Driver/occupant interview
 - (8) Other (specify):
 - Unknown if belt used



U.S. Department of Transportation

National Highway Traffic Safety Administration

INTERVIEW FORM (A)

NATIONAL ACCIDENT SAMPLING SYSTEM CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number	Interviewee(s) Role or Name(s): Drivers
2. Case Number - Stratum	husband
3. Vehicle Number	
	to ensure the
acquisition of all pertinent data.	questions prior to conducting interview(s) to ensure the
If the driver was not the person interviewed, w	vas an appointment made for a follow-up interview?
DRIVER'S DESCR	IPTION OF ACCIDENT EVENTS
by 8" on the par on face. It would air bags hit like of	ag itself. maybe 8" -t that comes and hits I absolve injury. The
	A22A and A33R. These reports are authorized b

ACCIDENT DIAGRAM



The use of this diagram is optional. It may serve to aid in relating interviewee accident trajectory data (i.e., pre-impact to FRP orientations) to identifiable objects in the environment.

NORTH

Braked and V, steered to Left to avaid



U.S. Department of Transportation

National Highway Traffic Safety

INTERVIEW FORM (B)

NATIONAL ACCIDENT SAMPLING SYSTEM

lational Highway Traffic Safety INIEK	VIEVY FURIVI (D) CRASHWORTHINESS DATA SYSTEM
1. Primary Sampling Unit Number DST 94-AB-16 2. Case Number - Stratum	Interviewee(s) Role or Name(s): Driver and husband
3. Vehicle Number	
ACCIDEN	T DATA QUESTIONS
Can you tell me in which direction you were travel	veling? 6a. What actions did you take? [] Braking with lock-up
[] North [] South [East [] West (Optional - Where were you coming from or goin	ng to? [] Releasing brakes [] Accelerating [] Steering left [] Steering right
2. In which lane were you traveling? (Note: Lane 1 is designated as the right curb lar [1] (2) [3] [4] [] Other (specify):	7. Where was your vehicle at the time of the collision?
3. Can you remember your <u>estimated travel speed</u> (in per hour) before the accident? [] Stopped [] 1-10 [] 10-20 [] 20-30 [] 30-40 [] 40-50 [] 50-60 [] 60-70 [] 70 +	[in miles [] Different travel lane [] In intersection [] Off roadway to right [] Off roadway to left [] Other (specify): 8. Was your travel speed at the time of the collision different from your previous travel speed?
4. Just before the accident, can you tell me what you intending to do or were doing? [V] Going straight [] Stopped [] Accelerating	[] No Lower [] Higher [] Unknown 8a. Can you estimate your speed at the time of the
[] Turning left [] Turning right [] Changing lanes to left [] Changing lanes [] Backing [] Other (specify):	[] 20-30 [] 30-40 [] 40-50 [] 50-60 [] 60-70 [] 70+
5. Did you experience any loss of control due to conditions or mechanical problems? [] No [] Yes (If yes, describe below)	9. Immediately following the collision, can you describe how your vehicle moved to its stopped position?
6. Did you have to take any <u>avoidance actions praccident?</u> [] No - Go to question 7 [U Yes - Go to question 6a	10. Can you tell me how many collisions your vehicle had during the accident and the source of the collisions?

National Accident Sampling System-Crashworthiness Data S	System: Interview Form (B) Page 2
1. Primary Sampling Unit Number 2. Case Number - Stratum DSI-94-AB-16	3. Vehicle Number
VEHICLE/DRIVER DA	ATA QUESTIONS
1. Can you tell me the year, make, model of your vehicle? 1 9 93,	7b. Were any of the belts removed or not functional prior to the accident? [V No [] Yes (If "Yes", specify which belt and describe problem) 8. Do any of the front belts move along a motorized track when the door is opened or closed? No (If "No", go to question 9) [] Yes (If "Yes", what seat location?)
[Y No [] Yes (If "yes", describe below)	[] Left Front [] Right Front
4. Did any of the doors (hatch, tailgate) open during the accident? [Y No [] Yes (If "Yes", describe below)	8a. Were the motorized belts working properly before the accident? [] No (If "No", describe condition below) ———————————————————————————————————
5. Did any of the windows break during the accident? [V No [] Yes (If "Yes", describe below)	8b. Were the belts connected to the track prior to the accident? [] No [] Yes [] Unknown
6. Does your vehicle have a glove compartment? [] No [] Yes	9. Do any of the front "seat" belts attach to the door such that when the door is opened the belt travels with the door?[] No (go to question 10)[] Yes
6a. Did the glove compartment door come open during the accident? [V] No [] Yes [] Unknown	9a. Does this belt come across the? [] Chest only Lap and chest 9b. Was this belt connected prior to the accident?
7. Does your vehicle have "seat belts"? [] No (If "No", go to question 7b) [Ves (If "Yes", go to question 7a)	[] No [V] Yes [] Unknown
7a. Can you describe the type of seat belt for each seat? Driver's seat [] Lap [V Lap and shoulder	AIR BAGS
Priver's seat [] Lap [] Lap and shoulder Front seat middle [] Lap [] Lap and shoulder Front seat right [] Lap [] Lap and shoulder Rear seat middle [] Lap [] Lap and shoulder Rear seat right [] Lap [] Lap and shoulder	10. Is your vehicle equipped with a driver's side air bag? [] No (go to question 11) [L] Yes (go to question 10a) [] Unknown (go to question 11)
(Identify seat belts for third row and beyond	10a. Did the air bag inflate during the accident? [No (go to questions 10b and 10c) [Yes (go to question 10e)

u Carabagethines Data	System: Interview Form (B) Page 3
itional Accident Sampling System-Crashworthiness Data	
1. Primary Sampling Unit Number DST-94-AB16	3. Vehicle Number
2. Case Number - Stratum	4. Occupant Number
VEHICLE/DRIVER DATA QU	JESTIONS (CONTINUED)
	CHILD SAFETY SEAT
Ob. Was the air bag wiring disconnected prior to the accident?	
No Yes (If "Yes", describe previous condition)	12. Was there a person in a child safety seat in your vehicle?
	No (If "No", go to question 13)
[] Unknown	[] Unknown
10c. Was your vehicle involved in any accidents prior to this accident which inflated the air bag?	12a. Can you tell me the manufacturer and model of the child safety seat?
[Y No (go to question 11) [] Yes (go to question 10d)	
[] Unknown	12b. Can you describe the type of child safety seat?
Od. Was the air bag re-installed after the accident?	[] Infant
[] No (go to question 11)	[] Toddler
[] Yes [] Unknown	[] Convertible [] Booster
•	Other (specify):
10e. Did the air bag inflate as you expected? [] No (If "No" describe below)	[] Unknown
	12c. Where was the child safety seat(s) located? [12] [13]
[] Yes [] Unknown	[21] [22] [23]
· ·	(31) (32) (33)
11. Is your vehicle equipped with a passenger side air bag? [] No (If "No", go to question 12)	[Other] (specify):
this year is "Vee" no to question 112)	12d. Can you tell me which direction the child safety seat
Unknown (If "Unknown", go to question 12)	was facing prior to the accident?
11a. Did the passenger air bag inflate during the accident?	[] Rear facing [] Forward facing,
[] No (go to question D)	Other (specify):
Yes (go to question 12)	[] Unknown
11b. Was the passenger air bag wiring disconnected prior to	12e. Was a seat belt used to hold the child seat in place?
the accident?	[] No (If "No", go to question 12g) [] Yes (If "Yes", go to question 12f)
[/ No [] Yes (If "Yes", describe below)	[] Unknown
() 165 (11 166) 555	12f. Can you describe how the seat belt was secured to the
[] Unknown	1 .t.ii.aaa2
11c. Was the passenger air bag inflated in a previous	I I looped through designated rear framing strots:
11c. Was the passenger air bay illiated in a passenger air bay	
No (go to guestion 12)	[] Looped through rear frame outside the designator
[] Yes (go to question 11d)	framing struts?
[] Unknown	[] Other (specify):
11d. Was the passenger air bag re-installed after the	
accident?	1 12 What was the Child Solety acet oggress
[] No (go to question 12)	time of purchase? (check all that apply)
[] Yes [] Unknown	[] Harness [] Shield
	[] Tether strap
11e. Did the passenger air bag inflate as you expected? [] No (If "No" describe below)	If any box is checked, ask questions 12h - 12i.
[] Yes	
[] Unknown	

lational Accident Sampling System-Crashworthiness Data	a System: Interview Form (B) Page 4
	3. Vehicle Number
1. Primary Sampling Unit Number	
2. Case Number - Stratum	4. Occupant Number
VEHICLE/DRIVER DATA C	DUESTIONS (CONTINUED)
	OPTIONAL
12h. Were any of these items added after you owned the	If you do not know where the vehicle is or if the owner's
child safety seat?	permission is needed for inspection.
[] Yes (specify)	15. Do you know where the vehicle is currently located?
[] No	15. Do you know where the vernor to
[] Unknown	
12i. Were any of these items used during the accident?	16. May I take a look at your vehicle to assess the
[] Yes (If "Yes", check all that apply) () Harness	damage?
() Shield	[] Yes
() Tether strap) [] No	
[] Unknown	DRIVER ONLY
CARGO WEIGHT AND MILEAGE	17. What race do you consider yourself?
	7 1 White 12×10^{12}
13. Was there any cargo in your vehicle?	Black American Indian, Eskimo or Aleut, Asian or Pacific Islander
[] No (If "No", go to question 14) [] Yes (If "Yes", go to question 13a)	
[] Unknown	[] Other (specify:) [] Unknown.
13a. Can you estimate the weight of the cargo?	
	18. Are you of hispanic origin?
lbs.	[] No
Cargo description	[] Yes
u ul ullarga en the vehicle?	
14. Can you tell me the mileage on the vehicle?	
miles	
	,

75-T-9U-4B-16	hicle Number		
Case Number Ottatem	cupant Number		
VEHICLE ROLLOVER/FIRE QUESTIONS			
ROLLOVER QUESTIONS	FIRE QUESTIONS		
Did the vehicle rollover during the accident? V No (f "No", go to question 2.) Yes Unknown (skip to question 2) Describe where the rollover began. On roadway On shoulder On roadside or median Unknown What caused the vehicle to rollover? Other vehicle (specify vehicle number): Other cause (specify): Unknown Other cause (specify): Unknown Describe which direction the vehicle rolled. Toward the right Toward the left End-over-end Unknown Unknown Other cause (specify):	2. Did the vehice experience a fire? [V No (If "No", skip to Occupant Data Questions) [] Yes [] Unknown 2a. Describe where the fire started or where smoke was first seen. [] Under the hood [] Behind the instrument panel [] In the passenger compartment [] In the trunk/cargo area [] Under the vehicle [] From other involved vehicle [] Unknown 2b. Did the fire start with the electrical system? [] No [] Yes (specify): [] Unknown 2c. Did the fire start with the fuel system? [] No (If "No", skip to Occupant Data Questions) [] Yes (go to question 2d) [] Unknown 2d. Describe which part of the fuel system that may have been involved? [] No [] Yes (specify): ———————————————————————————————————		

ational Accident Sampling System-Crashworthiness Data	System: Interview Form (B) Page 6
	3. Vehicle Number
1. Primary Sampling Unit Number DST-94-AB-16	4. Occupant Number
2. Case Number - Stratum OCCUPANT DAT	A OUESTIONS
OCCUPANT DAT	
1. Was there anyone else in your vehicle at the time of the accident? [] No (If "No", go to question 4) [Yes (If "Yes", specify number in question 2 below and then go to question 3) [] Unknown	5d. Were you (Was he/she) [
2. How many? [1] One other person [2] Two other persons [3] Three other persons [4] Four other persons [5] Five other persons [6] Six other persons [7] Seven or more other persons (specify number:)	 6. Were you (Was he/she) or any part of your (his/her) body thrown from the vehicle during the accident? [No (If "No", go to question 7) [] Yes (If "Yes", go to question 6a) [] Unknown 6a. Can you remember out of what area of the vehicle you were (he/she was) thrown? [] No [] Yes (Describe:)
3. Where was this person sitting? (Circle seating positions)	
	OCCUPANT RESTRAINT 7. Were you (Was he/she) wearing a seat belt just before the accident? [] No (If "No", go to question 8) [Yes
OCCUPANT CHARACTERISTICS	[] Unknown
4. Can I have your (his/her) height, weight, age, and sex? Height 5/7' Weight 50 Age 5/1 Sex: [] Male Female	7a. Were you (Was he/she) wearing the [] Lap belt? [] Lap and Shoulder belt? [] Shoulder belt? 7b. Can you describe how you were (he/she was) wearing
5. Can you tell me how you (he/she was) were sitting in your vehicle?	the lap belt? [] Across the stomach [Low on lap [] Other (specify:) [] Unknown 7c. Can you describe how you were (he/she was) wearing
5a. Can you describe the location of your (his/her) feet just prior to the collision?	the shoulder belt? [Over the shoulder [] Under the arm [] Behind the back [] Behind the seat [] Other (specify:)
5b. Can you describe the location of your (his/her) arms?	[] Yes (If "Yes", describe) [] Unknown OCCUPANT ENTRAPMENT
5c. Was your (his/her) back resting against the seat back rest? [] No (If "No", describe the position)	
:(/ Yes [] Unknown	[] Unknown

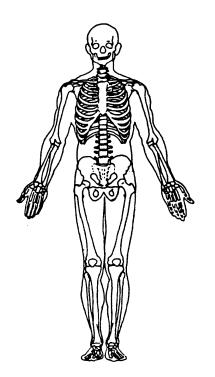
Occupant Number

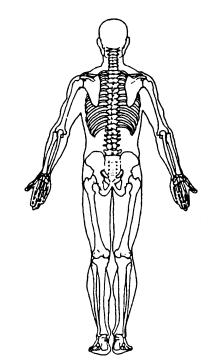
INJURY DATA FROM INTERVIEWEE(S)

Indicate the Location, Lesion, Detail, and Source of all injuries. Specify interviewee(s):

eyes hemmora goft tissue/internal injuries Swollen nose scratches on face swollen lip





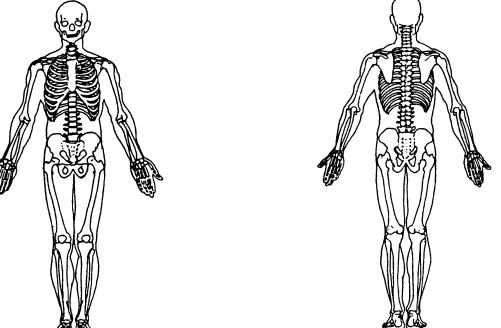


The space provided on the back of this page may be used to document injuries noted by the interviewee(s).

nal Accident Sampling System-Crashworthiness Data	3. Vehicle Number
Primary Sampling Unit Number Case Number - Stratum DSI 94-AB16	4. Occupant Number
OCCUPANT INJURY DATA	
	8. Have you (he/she) lost any days from work or school
e. Have you (Has he/she) received any follow-up treatment? No Yes (If "Yes", describe:)	(college)? [] No [] Yes (If "Yes", determine the number of days los
If. In order to achieve the best possible scientific data regarding your (his/her) injury(s), we need to obtain a copy of your (his/her) medical reports. Would you (he/she) sign a medical release form? [] No [] Yes (If "Yes", mail or present the form for signature.)	
•	

National Accident Sampling System-Crashworthiness Data	System: Interview Form - Supplement
1. Primary Sampling Unit Number	icle Number
1)51-44-4616	supant Number <u>02</u>
2. Case Number - Stratum 4. Occ OCCUPANT DATA QUE	
1. Who was the next occupant in your vehicle at the time of the accident?	5d. Were you (Was he/she) [] Sitting upright or [] Leaning to left side, or [] Leaning to right side? OCCUPANT EJECTION 6. Were you (Was he/she) or any part of your (his/her) body
2. Occupant Number 2 of 2.	thrown from the vehicle during the accident? No (If "No", go to question 7) Yes (If "Yes", go to question 6a) Unknown
3. Where were you (was this person) sitting? (Circle seating positions) [12] [21] [22] [33] [32] [33] [] Other (specify:)	6a. Can you remember out of what area of the vehicle you were (he/she was) thrown? [] No [] Yes (Describe:) OCCUPANT RESTRAINT 7. Were you (Was he/she) wearing a seat belt just before
4. Can I have your (his/her) height, weight, age, and sex? Height Weight Age Sex: Male [] Female	the accident? [] Ne (If "No", go to question 8) [] Yes [] Unknown 7a. Were you (Was he/she) wearing the [] Lap belt? [] Lap and Shoulder belt? [] Shoulder belt?
OCCUPANT POSTURE	7b. Can you describe how you were (he/she was) wearing
5. Can you tell me how you (he/she) was sitting in the vehicle? ASLEED ADDOCTOR 5a. Can you describe the location of your (his/her) feet just prior to the collision?	the lap belt? Across the stomach Low on lap Other (specify:) Unknown 7c. Can you describe how you were (he/she was) wearing
5b. Can you describe the location of your (his/her) arms?	7d. Did any part of the belt system break or tear? No [] Yes (If "Yes", describe) [] Unknown
5c. Was your (his/her) back resting against the seat back rest? [] No (If "No", describe the position) [Yes [] Unknown	
	[] Unknown

HS Form 433G (1/94)



The space provided on the back of this page may be used to document injuries noted by the interviewee(s).

PSU Number __

Case Number - Stratum

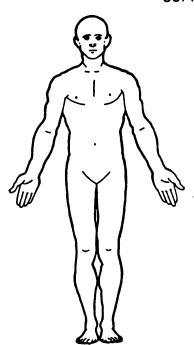
Vehicle Number

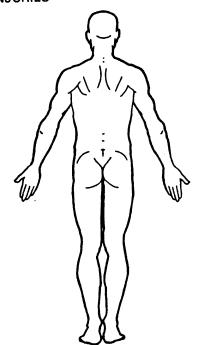
Occupant Number

INJURY DATA FROM INTERVIEWEE(S)

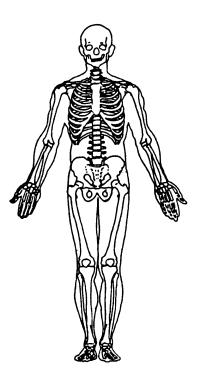
Indicate the Location, Lesion, Detail, and Source of all injuries. Specify interviewee(s):_____

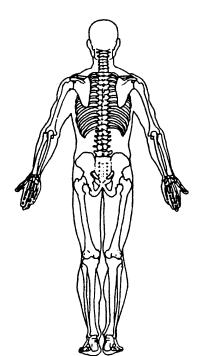
SOFT TISSUE/INTERNAL INJURIES





SKELETAL INJURIES





The space provided on the back of this page may be used to document injuries noted by the interviewee(s).

1. Primary Sampling Unit Number

2. Case Number - Stratum DSI94 AB-16 4. Occupant Number

01
02

OCCUPANT INJURY	DATA QUESTIONS
1. Were you (Was he/she) injured? [] No (If "No", skip to question 7) [] Yes (If "Yes", complete Occupant Injury Questions) [] Unknown	5a. Do you know what caused this injury? [] No [] Yes (If "Yes", specify the component(s) on the manikin(s).) [] Unknown
 2. Did you (he/she) receive any cuts, abrasions, or bruises? [] No (go to question 3) [] Yes (If "Yes", record the exact location(s) and size on the manikin(s).) [] Unknown 	 6. Did you (be/she) suffer any joint sprains or muscle straine? No (If "No", go to question 7) Yes (If "Yes", specify on the manikin(s), and then go to question 6a.)
2a. Do you know what caused your (his/her) injury(s)? [] No [] Yes (If "Yes", specify the component(s) or object(s) on the manikin(s).) [] Unknown	 [] Unknown 6a. Do you know what caused the injury(s)? [] No [] Yes (If "Yes", specify the component(s) on the manikin(s).)
3. Did you (he/she) experience any broken bones? No (If "No", go to question 4) [] Yes (If "Yes", record the exact location(s) and type of fracture(s) on the manikin(s), and then go to question 3a.) [] Unknown	[] Unknown 7. Did you (he/she) receive any treatment? [1] No (If "No", go to question 8) [] Yes (If "Yes", go to question 7a or return to question 2.)
3a. Do you know what caused the injury(s)? [] No [Yes (If "Yes", specify the component(s) or object(s) on the manikin(s).) [] Unknown	7a. Were you (Was he/she) treated by (check all that apply): [] Hospital/trauma center? (specify hospital name): [] Medical clinic
 4. Did you (he/she) injure your (his/her) head? (skull/ brain?) [] No (If "No", go to question 5) [] Yes (If "Yes", describe the type of injury(s) on the manikin(s), then go to question 4a.) [] Unknown 	[] Out patient surgery? (specify medical facility:) [] Paramedics or first aid at the scene? [] A doctor in his/her office? [] Treated at home? [] None of the above, go to question 8.
4a. Do you know what caused the injury(s)?[] No[] Yes (If "Yes", specify the component(s) on the manikin(s).)	7b. Were you (Was he/she) treated and released from the emergency room? [] No (If "No", go to question 7c.) [] Yes (If "Yes", go to question 7e.)
 [] Unknown 5. Were any of your (his/her) internal organs injured? [] No (If "No", go to question 6) [] Yes (If "Yes", thoroughly describe the type of injury(s) and specify the internal organ(s) injured on the manikin(s), and then go to question 5a.) [] Unknown 	7c. Were you (Was he/she) hospitalized? {] No (If "No", give an explanation) [] Yes (If "Yes", go to question 7d.)

Primary Sampling Unit Number	5. Verillote training						
1 D L CUL-4P-11 - 4 Occupant Number							
Case Number - Stratum							
OCCUPANT INJURY DATA	QUESTIONS (CONTINUED)						
e. Have you (Has he/she) received any follow-up treatment? No Yes (If "Yes", describe:)	8. Have you (he/she) lost any days from work or school (college)? [] No [] Yes (If "Yes", determine the number of days lost) (Specify:) [] Not working prior to the accident [] Unknown						
If. In order to achieve the best possible scientific data regarding your (his/her) injury(s), we need to obtain a copy of your (his/her) medical reports. Would you (he/she) sign a medical release form? [] No [] Yes (If "Yes", mail or present the form for signature.)							
	·						

National Highway Traffic Safety

OCCUPANT INJURY FORM

NATIONAL ACCIDENT SAMPLING SYSTEM CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

3. Vehicle Number

\$/

2. Case Number - Stratum

DS1-94-AB-Ø16

4. Occupant Number

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

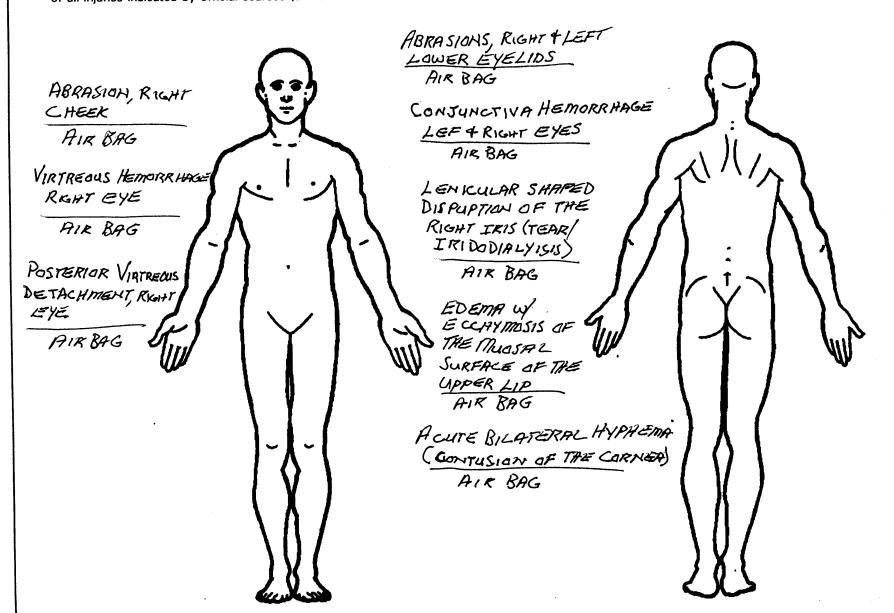
				A.I.S	90				Injury		Occupant	
	Source of Injury Data	Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Source Confidence Level	Direct/ Indirect Injury	Area Intrusion Number	ICD-:
1st	5. <u>2</u>	6. <u>2</u>	7. <u>9</u> 1	s. <u>72</u>	9. <u>Ø2</u>	10	11. <u>/</u>	12. <u>45</u>	13. /	14. <u> </u>	15. <u>Ø Ø</u>	91 8 .4
2nd	16. <u>À</u>	17. <u>L</u>	18. 9 19	a. <u>72</u>	20. <u>ØZ</u>	21,	22	23. <u>45</u>	24. <u>/</u> 2	25. <u>/</u>	26. <u>Ó Ó</u>	9/8-9
3rd	27. <u>2</u>	28. <u>A</u>	29. <u>H</u> 30	o. <u>Ø4</u>	31. <u>/6</u>	32. <u>/</u>	33.2	34. <u>45</u>	35 :	36. <u> </u>	37. <u>Ø Ø</u>	<u>372:7.</u>
								45. <u>45</u>				
								56. <u>45</u>				
	±							67. <u>45</u>				
. 40°								78. <u>45</u>				
								89. <u>45</u>				
9th	93. 2	94. Z	95. <u>9</u> 96	s. \$2	97. <u>47</u>	98	99. /	100. <u>45</u>	101. 🔼 10)2. <u>/</u> 1	03. <u>Ø</u>	9KM-\$
10th	104. <u>2</u> 1	05.21	06. 4 10	7. <u> 1 6</u>	108. <u>99</u>	109 1	10	111. <i>45</i>	112. <u>/</u> 1	13. <u>/</u> 1	14. <u>ØØ</u>	379.2.

Form 433B (1/94)

This report is authorized by P.L. 89-563, Title 1, Section 106, 108, and 112. While you are not required to respond, your cooperation is needed to make the results of this data collection effort comprehensive, accurate, and timely.

				OCC. A.I.S 90	UPANT I	INJURY	DATA		Injury		Occupant	
	Source of Injury Data	Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Source Confidence Level	Direct/ Indirect Injury	Area Intrusion Number	ICD-
11th	2	B	4	<u> </u>	99	1	1	45	<u>J</u>	<u>L</u>	ØØ	379.2
12th	7	<u> </u>	2	<u> 42</u>	<u>\$</u> 2	1	2	<u>45</u>	L	L	ØØ.	910.9
												/
13th		<u></u> -	—			—						
14th							—		_		——	
15th	_					—						
16th	_		_			_			-			
1 7th			_			_				_		
18th									_			
19th	_	—	_									
20th	— —		—			—	_					
21st			—			_		<u></u> -				
22nd			_			—			<u>—</u>			
23rd			-			_						
24th												
25.4												
25th												

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

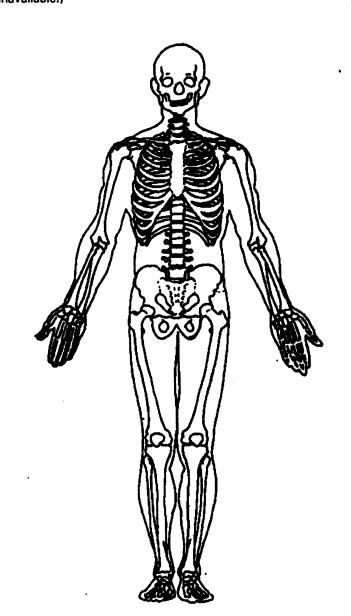


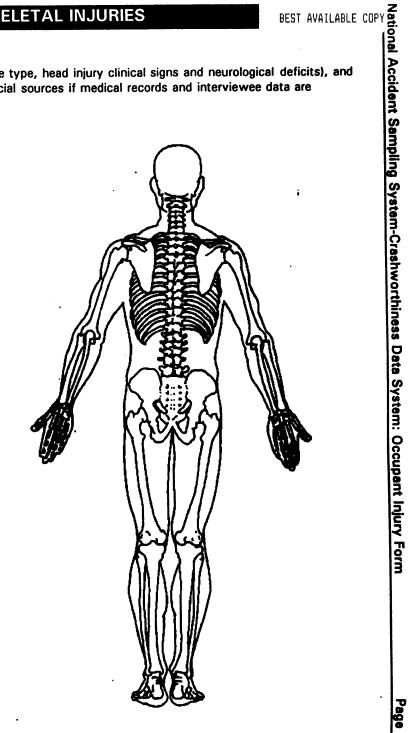
Rest	rain	ed?

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

Blood Alcohol Level

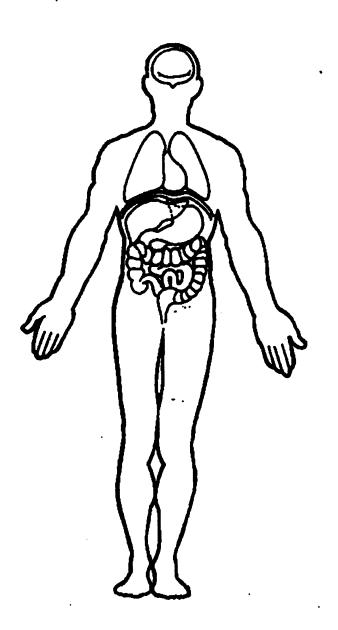
Units of Blood

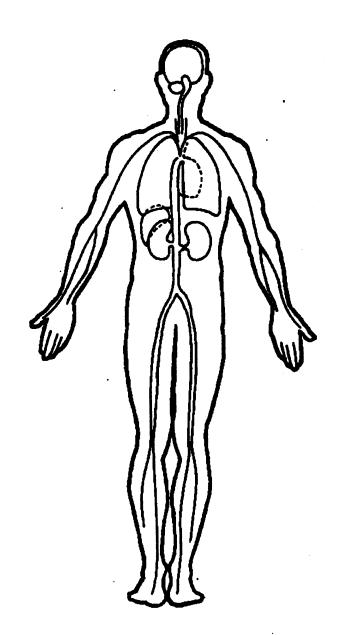




OFFICIAL INJURY DATA —INTERNAL INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)





SOURCE OF INJURY DATA

OFFICIAL

- (1) Autopsy records with or without hospital/ medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- Emergency room records only (including associated X-rays or other lab reports)
- Private physician, walk-in or emergency clinic

UNOFFICIAL

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify):
- (9) Police

INJURY SOURCE

- (01) Windshield
- (02) Mirror
- Sunvisor (03)
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify):
- (19) Other front object (specify):

LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar
- (23) Left B-pillar
- (24) Other left pillar (specify):

- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify):
- (28) Left side window sill

RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify):
- Right side window glass or frame
- Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (37) Other right side object (specify):
- (38) Right side window sill

INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar or door frame attachment point
- (43) Other restraint system component (specify):
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)
- (46) Other occupants (specify):
- Interior loose objects (47)
- Child safety seat (specify): (48)
- (49) Other interior object (specify):

ROOF

- (50) Front header
- (51) Rear header (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

FLOOR

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking

REAR

(60) Backlight (rear window)

- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify):

EXTERIOR of OCCUPANT'S VEHICLE

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify):
- Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify):
- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface Side mirrors
- 1771
- (78) Other side protrusions (specify)
- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify):
- (83) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE

ENVIRONMENT

- (84) Ground
- (85) Other vehicle or object (specify)
- (86) Unknown vehicle or object

NONCONTACT INJURY

- (90) Fire in vehicle
- (91) Flying glass
- Other noncontact injury source (92) (specify):
- (93) Air bag exhaust gases
- (97) Injured, unknown source

INJURY SOURCE CONFIDENCE LEVEL

- (1) Certain
- (2) Probable
- (3) Possible
- Unknown

DIRECT/INDIRECT INJURY

- Direct contact injury
- Indirect contact injury
- (3) Noncontact injury Injured, unknown source

OCCUPANT INJURY CLASSIFICATION

Body Region

- (2) Face (3) Neck
- Thorax (4)Abdomen
- (6) Spine **Upper Extremity**
- (7)Lower Extremity
- Unspecified Type of Anatomic Structure
- Whole Area
- (2) Vessels (3) Nerves
- (4) Organs (includes muscles/
- (5) Skeletal (includes joints)
- Head LOC (6)
- (9) Skin

Specific Anatomic Structure

- Whole Area (02) Skin Abrasion (04) Skin - Contusion
- (06) Skin Laceration (08) Skin - Avulsion
- Amputation (10)
- (30) Crush (40)
- Degloving Injury NFS (50)Trauma, other than mechanical
- Head LOC (02) Length of LOC
- (04, 06, 08) Level of Consciousness (10) Concussion

Spine (02) Cervical Thoracic (06) Lumbar

Vesseis, Nerves, Organs, Bones, Joints are assigned consecutive two digit numbers beginning with 02

Level of Injury

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

Abbreviated Injury Scale

- Minor injury (1)
- Moderate injury (3) Serious injury
- Severe injury (4)
- Critical injury (5)
- Maximum (untreatable) Injured, unknown severity (7)

Aspect

- Right (2) Left
- Bilateral (3)
- Central Anterior
- (6) **Posterior**
- (7) Superior Inferior (8)
- Unknown (0) Whole region

OCCUPANT ASSESSMENT FORM NATIONAL ACCIDENT SAMPLING SYSTEM National Highway Traffic Safety Administration CRASHWORTHINESS DATA SYSTEM OCCUPANT'S SEATING 1. Primary Sampling Unit Number 10. Occupant's Seat Position 2. Case Number - Str Front Seat (11) Left side 3. Vehicle Number (12) Middle (13) Right side 4. Occupant Number (14) Other (specify): OCCUPANT'S CHARACTERISTICS (15) On or in the lap of another occupant 5. Occupant's Age Second Seat Code actual age at time of accident. (21) Left side (00) Less than one year old (specify by month): (22) Middle (23) Right side (97) 97 years and older (24) Other (specify):_ (99) Unknown (25) On or in the lap of another occupant Third Seat (31) Left side 6. Occupant's Sex (32) Middle (1) Male (33) Right side (2) Female (34) Other (specify): (35) On or in the lap of another occupant (9) Unknown Fourth Seat (41) Left side 7. Occupant's Height (42) Middle Code actual height to the nearest (43) Right side centimeter. (44) Other (specify): (45) On or in the lap of another occupant (999) Unknown (97) In or on unenclosed area (98) Other seat (specify): (99) Unknown 8. Occupant's Weight Code actual weight to the nearest 11. Occupant's Posture kilogram. (0) Normal posture (999) Unknown Abnormal posture (1) Kneeling or standing on seat (2) Lying on or across seat (3) Kneeling, standing or sitting in front of seat (4) Sitting sideways or turned to talk with another 9. Occupant's Role occupant or to look out a rear window (5) Sitting on a console (1) Driver (6) Lying back in a reclined seat position (2) Passenger (7) Bracing with feet or hands on a surface in front (9) Unknown of seat (8) Other abnormal posture (specify):

	EJECT	ION/E	NTRAPMENT
12.	Ejection (0) No ejection (1) Complete ejection (2) Partial ejection (3) Ejection, unknown degree (9) Unknown	0	15. Medium Status (Immediately Prior To Impact) (0) No ejection (1) Open (2) Closed (3) Integral structure (9) Unknown
13.	Ejection Area (0) No ejection (1) Windshield (2) Left front (3) Right front (4) Left rear (5) Right rear (6) Rear (7) Roof (8) Other area (e.g., back of pickup, etc.) (specify): (9) Unknown	<u>O</u>	16. Entrapment (NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.) (0) Not entrapped (1) Entrapped (9) Unknown
14.	Ejection Medium (0) No ejection (1) Door/hatch/tailgate (2) Nonfixed roof structure (3) Fixed glazing (4) Nonfixed glazing (specify): (5) Integral structure (8) Other medium (specify): (9) Unknown	<u>O</u>	

		RESTRAINTS	YST	EM EVALUATION	
17.	(0) (1) (2) (3) (4)	ual (Active) Belt System Availability None available Belt removed/destroyed Shoulder belt Lap belt Lap and shoulder belt Belt available—type unknown	‡	21. Air Bag System Availability/Function (0) Not equipped/not available (1) Air bag Non-functional (2) Air bag disconnected (specify):	I
	<i>Inte</i> (6)	gral Belt Partially Destroyed Shoulder belt (lap belt destroyed/removed) Lap belt (shoulder belt destroyed/removed)		(3) Air bag not reinstalled (9) Unknown	
	(8)	Other belt (specify):		22. Air Bag System Deployment	1
	(9)	Unknown	$\boldsymbol{\gamma}$	(0) Not equipped/not available(1) Air bag deployed during accident (as a result of impact)	
18.	(00)	ual (Active) Belt System Use None used, not available, or belt removed/destroyed Inoperative (specify):	1	 (2) Air bag deployed inadvertently just prior to accident (3) Air bag deployed, accident sequence undetermined (4) Nondeployed 	
	(03) (04) (05)	Shoulder belt Lap belt Lap and shoulder belt Belt used—type unknown Other belt used (specify):		 (5) Unknown if deployed (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical) (9) Unknown 	1
	(13) (14) (15) (18)	Shoulder belt used with child safety seat Lap belt used with child safety seat Lap and shoulder belt used with child safety seat Belt used with child safety seat—type unknow Other belt used with child safety seat (specify): Unknown if belt used	wn	 23. Are There Indications of Air Bag System Failure? (0) Not equipped/not available (1) No (2) Yes (specify): 	1.
	,00,	onalown in belt used	\sim	(9) Unknown	
19.	(0) (1)	er Use of Manual (Active) Belts None used or not available Belt used properly Belt used properly with child safety seat	1	Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts	
	(3) (4) (5) (6) (7)	Used Improperly Shoulder belt worn under arm Shoulder belt worn behind back or seat Belt worn around more than one person Lap belt worn on abdomen Lap belt or lap and shoulder belt used improperly with child safety seat (specify):		 24. Police Reported Restraint Use (0) None used (1) Police did not indicate restraint use (2) Shoulder belt (3) Lap belt (4) Lap and shoulder belt 	\square
	(8)	Other improper use of manual belt system (specify):		(5) Belt used, type not specified(6) Child safety seat(7) Other or automatic restraint (specify):	
		Unknown	7	(8) Restrained, type unknown (9) Police indicated "unknown"	
20.	Durii (0) (1) (2) (3) (4) (5) (6) (7)	ual (Active) Belt Failure Modes ng Accident No manual belt used No manual belt failure(s) Torn webbing (stretched webbing not included) Broken buckle or latchplate Upper anchorage separated Other anchorage separated (specify): Broken retractor Combination of above (specify):	1		
		Unknown			
			1		

HEAD RESTRAINT AN	D SEAT EVALUATION
25. Head Restraint Type/Damage by Occupant at This Occupant Position (0) No head restraints (1) Integral—no damage (2) Integral—damaged during accident (3) Adjustable—no damage (4) Adjustable—damaged during accident (5) Add-on—no damage (6) Add-on—damaged during accident (8) Other (specify):	27. Seat Performance (this Occupant Position) (0) Occupant not seated or no seat (1) No seat performance failure(s) (2) Seat adjusters failed (3) Seat back folding locks or "seat back" failed (specify): (4) Seat track/anchors failed (5) Deformed by impact of occupant (6) Deformed by passenger compartment intrusion (specify): (7) Combination of above (specify):
26. Seat Type (this Occupant Position) (00) Occupant not seated or no seat (01) Bucket (02) Bucket with folding back (03) Bench (04) Bench with separate back cushions (05) Bench with folding back(s) (06) Split bench with separate back cushions (07) Split bench with folding back(s) (08) Pedestal (i.e., column supported) (09) Other seat type (specify): (10) Box mounted seat (i.e., van type) (99) Unknown	(8) Other (specify): (9) Unknown

CHILD SA	FETY SEAT
28. Child Safety Seat Make/Model (000) No child safety seat	31. Child Safety Seat Harness Usage
Applicable codes are found in your NASS CDS Data Collection, Coding and Editing (950) Built-in child safety seat	32. Child Safety Seat Shield Usage
(997) Other make/model (specify): (998) Unknown make/model (999) Unknown if child safety seat used	33. Child Safety Seat Tether Usage Note: Options below applicable to Variables OA31-OA33. (00) No child safety seat
29. Type of Child Safety Seat (0) No child safety seat (1) Infant seat (2) Toddler seat (3) Convertible seat (4) Booster seat (7) Other type child safety seat (specify): (8) Unknown child safety seat type (9) Unknown if child safety seat used 30. Child Safety Seat Orientation (00) No child safety seat Designed for Rear Facing for This Age/Weight (01) Rear facing (02) Forward facing (08) Other orientation (specify):	Not Designed With Harness/Shield/Tether (01) After market harness/shield/tether added, not used (02) After market harness/shield/tether used (03) Child safety seat used, but no after market harness/shield/tether added (09) Unknown if harness/shield/tether added or used Designed With Harness/Shield/Tether (11) Harness/shield/tether not used (12) Harness/shield/tether used (19) Unknown if harness/shield/tether used Unknown If Designed With Harness/Shield/Tether (21) Harness/shield/tether not used (22) Harness/shield/tether used (29) Unknown if harness/shield/tether used
Designed For Forward Facing for This Age/Weight (11) Rear facing (12) Forward facing (18) Other orientation (specify): (19) Unknown orientation Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight (21) Rear facing (22) Forward facing (28) Other orientation (specify): (29) Unknown orientation (99) Unknown if child safety seat used	

National Accident Sampling System-Crashworthiness Dat	a System: Occupant Assessment Form Page 6
INJURY CONSEQUENCES	38. Working Days Lost
34. Injury Severity (Police Rating)	Code the number of days (up through 60) that the occupant
 (0) O - No injury (1) C - Possible injury (2) B - Nonincapacitating injury (3) A - Incapacitating injury (4) K - Killed (5) U - Injury, severity unknown (6) Died prior to accident (9) Unknown 	lost from work due to the accident (00) No working days lost (61) 61 days or more (62) Fatally injured (97) Not working prior to accident (99) Unknown
35. Treatment - Mortality (0) No treatment (1) Fatal (2) Fatal - ruled disease (specify):	STOP - GO TO VARIABLE 44 ON PAGE 7 VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER 39. Time to Death
Nonfatal (3) Hospitalization (4) Transported and released (5) Treatment at scene - nontransported (6) Treatment later (8) Treatment - other (specify):	Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, n days = 30 + n up through 30 days = 60) (00) Not fatal (96) Fatal - ruled disease (99) Unknown
36. Type Of Medical Facility (for Initial Treatment) (0) Not treated at a medical facility (1) Trauma center (2) Hospital (3) Medical clinic (4) Physician's office (5) Treatment later at medical facility (8) Other (specify): (9) Unknown	40. 1st Medically Reported Cause of Death 41. 2nd Medically Reported Cause of Death 42. 3rd Medically Reported Cause of Death Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death (00) Not fatal or no additional causes (96) Mode of death given but specific injuries are not linked to cause of death. (specify):
(00) Not Hospitalized Code the number of days (up through 60) that the occupant stayed in hospital. (61) 61 days or more (99) Unknown	(97) Other result (includes fatal ruled disease) (specify): (99) Unknown
-	43. Number of Recorded Injuries for This Occupant Code the actual number of injuries recorded for this occupant. (00) No recorded injuries (97) Injured, details unknown (99) Unknown if injured

	ALITORATIO DEL T. OVOTERA	
	AUTOMATIC BELT SYSTEM Automatic (Passive) Belt System Availability/ Function (0) Not equipped/not available (1) 2 point automatic belts (2) 3 point automatic belts (3) Automatic belts - type unknown Non-functional (4) Automatic belts destroyed or rendered inoperative (9) Unknown Automatic (Passive) Belt System Use (0) Not equipped/not available/destroyed or	48. Automatic (Passive) Belt Failure Modes During Accident (0) Not equipped/not available/not in use (1) No automatic belt failure(s) (2) Torn webbing (stretched webbing not included) (3) Broken buckle or latchplate (4) Upper anchorage separated (5) Other anchorage separated (specify): (6) Broken retractor (7) Combination of above (specify): (8) Other automatic belt failure (specify):
46.	rendered inoperative (1) Automatic belt in use (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify): (3) Automatic belt use unknown (9) Unknown	49. Seat Orientation (this Occupant Position) (0) Occupant not seated or no seat (1) Forward facing seat (2) Rear facing seat (3) Side facing seat (inward) (4) Side facing seat (outward) (8) Other (specify): (9) Unknown
	(0) Not equipped/not available (1) Non-motorized system (2) Motorized system (9) Unknown	Check the Primary Source Head In Determining Pale
	Proper Use of Automatic (Passive) Belt System (0) Not equipped/not available/not used (1) Automatic belt used properly (2) Automatic belt used properly with child safety seat Automatic Belt Used Improperly (3) Automatic shoulder belt worn under arm (4) Automatic shoulder belt worn behind back (5) Automatic belt worn around more than one person (6) Lap portion of automatic belt worn on abdomen (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): (8) Other improper use of automatic belt system (specify): (9) Unknown	Check the Primary Source Used In Determining Belt Use. [] Not equipped/not available/destroyed or rendered inoperative [V] Vehicle inspection [] Official injury data [] Driver/occupant interview [] Other (specify): [] Unknown if belt used
	ARE ALL APPLICABLE MEDICAL RECORNITH INITIAL SUBMISSION?	RDS INCLUDED NO [X] YES []
	UPDATE CANDIDATE?	NO [K] YES []

STOP - VARIABLES 50 THROUGH 53 ARE COMPLETED BY THE ZONE CENTER	BELT USE DETERMINATION
TRAUMA DATA	53. Primary Source of Belt Use Determination (0) Not equipped/not available/destroyed or rendered inoperative
50. Glasgow Coma Scale (GCS) Score (at Medical Facility) (00) Not injured (01) Injured - not treated at medical facility (02) No GCS Score at medical facility (03-15) Code the actual value of the initial GCS Score recorded at medical facility. (97) Injured, details unknown (99) Unknown if injured	(1) Vehicle inspection (2) Official injury data (3) Driver/occupant interview (8) Other (specify): (9) Unknown if belt used
51. Was the Occupant Given Blood? (1) No - blood not given (2) Yes - blood given (specify units): (9) Unknown if blood given	
52. Arterial Blood Gases (ABG) - HCO ₃ (00) Not injured (01) Injured, ABGs not measured or reported (02-50) Code the actual value of theHCO ₃ (96) ABGs reported, HCO ₃ unknown (97) Injured, details unknown (99) Unknown if injured	

National Highway Traffic Safety Administration

OCCUPANT INJURY FORM

NATIONAL ACCIDENT SAMPLING SYSTEM CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number DST-94-AB-16

2. Case Number - Stratum

- 3. Vehicle Number
- 4. Occupant Number

01

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury	Body	Type of Anatomic	A.I.S Specific Anatomic	90 Level of	A.I.S.	-	lnjury	Injury Source Confidence	Direct/	
	Data	Region	Structure	Structure	Injury	Severity	Aspect	Source	Level	Injury	Number
1st	5.1	<u>6</u> 2	<u>,9</u>	. <u>0</u> Z	s. <u>0</u> 2	10. 1	11	12. <u>45</u>	13	14. <u>L</u>	15. <u>O</u> C
2nd	16,9	17.2	18. 9	.06	_{20.} <u>0</u> 0	21	22	23. <u>45</u>	24	25	26. <u>O</u> C
3rd	27	28	29 30	0	31	32	33	34	35	36	37
4th	38	39	40 4	1	42	43	44	45	46	47	48
5th	49	50	51 5.	2	53	54	55	56	57	58	59
6th	60	61	626:	3	64	85	66	67	68	69	70
7th	71	72	73 7	í	75	76	77	78	79	80	81
8th	82	83	84 8!	5	86	87	88	89	90	91	92
9th	93	94	959(6	97	98	99	100	101 1	02 1	03
10th	104	105 1	06 10	7	08	109.	110.	111.	112. 1	13 1	14

					PANT	INJURY	DATA				
	Source of Injury Data	Body Region	Type of Anatomic Structure	A.I.S 90 Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
11th 12th	<u>-</u>	_	-	 			_		-	-	
13th 14th			_			—	<u>-</u>		-	-	
15th			-				-		— —	_	
16th 17th			— —				— —		— —	—	
18th			-	<u></u> -		_	—	 -	_		
19th 20th			— —				— —	—— ——	— —		
21st						_	_	——	_		
22nd 23rd				—— ——		— ————————————————————————————————————	_		— —	_	
24th						-	_				
25th			_			<u></u>	-		-		

SOURCE OF INJURY DATA

OFFICIAL

- (1) Autopsy records with or without hospital/ medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency

UNOFFICIAL

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify):
- (9) Police

INJURY SOURCE

FRONT

- (01) Windshield
- (O2) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify):
- (19) Other front object (specify):

LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar
- (23) Left B-pillar
- (24) Other left pillar (specify):

- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify):
- (28) Left side window sill

RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify):
- (35) Right side window glass or frame (36) Right side window glass including
 - one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (37) Other right side object (specify):
- (38) Right side window sill

INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar or door frame attachment point
- (43) Other restraint system component (specify):
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)
- (46) Other occupants (specify):
- (47) Interior loose objects
- (48) Child safety seat (specify):
- (49) Other interior object (specify):

ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

FLOOR

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

REAR

(60) Backlight (rear window)

- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify):

EXTERIOR of OCCUPANT'S VEHICLE

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- Other exterior surface or tires (specify):
- (68) Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify):
- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify)
- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify):
- (83) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE **ENVIRONMENT**

- (84) Ground
- (85) Other vehicle or object (specify)
- (86) Unknown vehicle or object

NONCONTACT INJURY

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify):
- (93) Air bag exhaust gases
- (97) Injured, unknown source

INJURY SOURCE CONFIDENCE LEVEL

- (1) Certain
- Probable (2)(3) Possible
- Unknown

DIRECT/INDIRECT INJURY

- Direct contact injury
- Indirect contact injury Noncontact injury (3)
- Injured, unknown source

OCCUPANT INJURY CLASSIFICATION

Body Region

- Head
- (3) Neck (4)
- Thorax
- (5) Abdomen (6) Spine
- (7) **Upper Extremity**
- (8) Lower Extremity
- (9) Unspecified
- Type of Anatomic Structure Whole Area
- (2)
- (3) Nerves (4)Organs (includes muscles/ ligaments)
- Skeletal (includes joints)
- (6) Head - LOC
- (9) Skin

Specific Anatomic Structure

- Whole Area (02) Skin Abrasion (04) Skin Contusion
- Skin Laceration
- (08) Skin - Avulsion (10) Amputation
- Burn (20)
- (30) Crush
- Degloving Injury NFS 1401
- (50) Trauma, other than mechanical
- Head LOC (02) Length of LOC (04, 06, 08) Level of Consciousness

(10) Concussion

Cervical 04) Thoracic (06) Lumbar

Vessels, Nerves, Organs. Bones, Joints are assigned consecutive two digit numbers beginning with 02

Level of Injury

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

Abbreviated Injury Scale

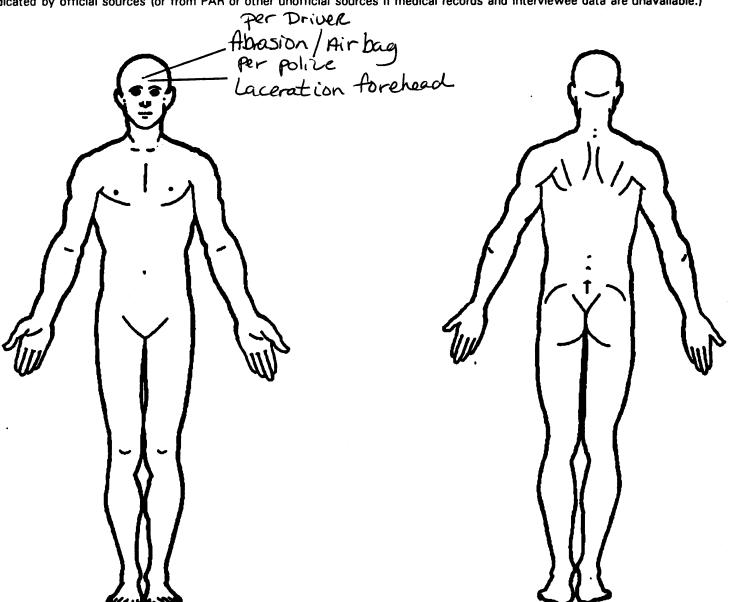
- (1) Minor injury
- Moderate injury (2) (3) Serious injury
- (4) Severe injury (5) Critical injury
- Maximum (untreatable)

Injured, unknown severity

Aspect

(7)

- Right
- (2) Laft
- (3) Bilateral Central
- (5) **Anterior**
- (6)Posterior (7) Superior
- (8) Inferior Unknown
- (0) Whole region



V--

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

Blood Alcohol Level (ma/dl)

BAL -

Glasgow Coma Scale Score

GCSS = ___

Units of Blood Given

Units - ___

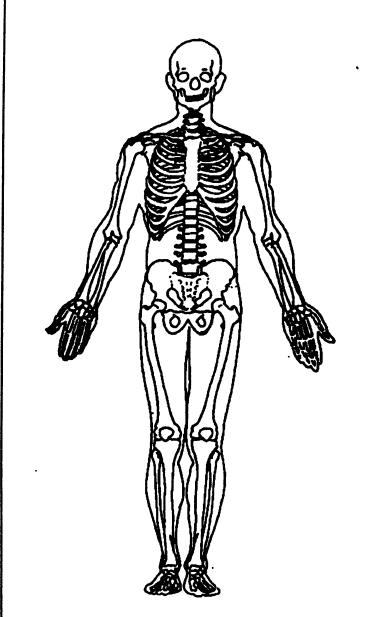
Arterial Blood Gases

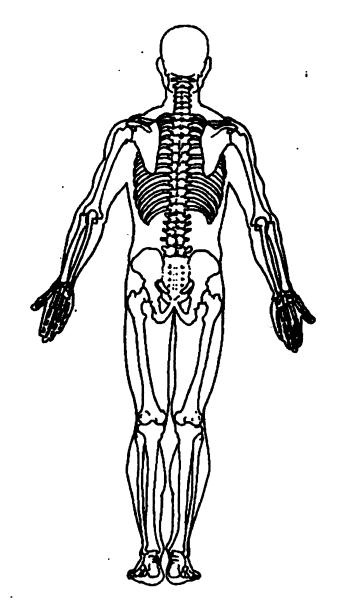
pH = __._

PO. -

PCO,

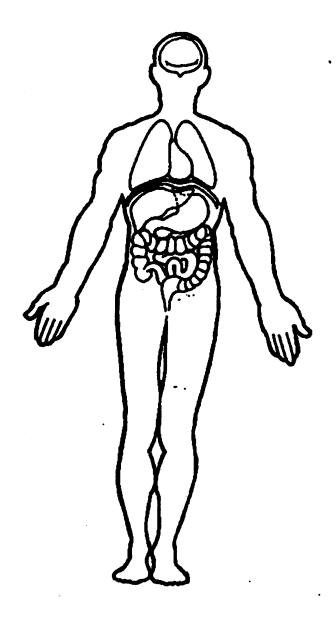
HCO, __

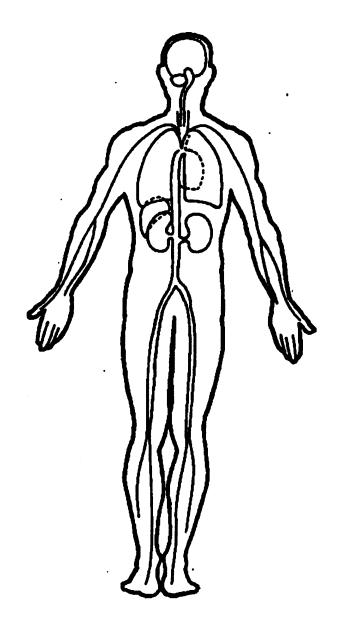




rage

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)





			1	BEST AVAILABLE
National Highway Traffic Safety Administration	GENERAL VEH	HICLE FORM	NATIONAL ACCIDENT SA CRASHWORTHINES	AMPLING SYST
1. Primary Sampling Unit Number 2. Case Number - Stratum 3. Vehicle Number VEHICLE IDENTIF 4. Vehicle Model Year Code the last two digits of the (99) Unknown 5. Vehicle Make (specify): Applicable codes are found in NASS Data Collection, Coding Editing Manual. (99) Unknown	$\frac{94-AB-15}{02}$ ICATION e model year $\frac{21}{your}$	(0) No alcoho (1) Yes (alcoho (7) Not repor (8) No driver (9) Unknown Note: See val (Page 4 12. Alcohol Test F Code actual val before first dig (95) Test refu (96) None give	ed Alcohol Presence of present hol present ted present riables 37 through 55 for information on Ot Result For Driver alue (decimal implied git—0.xx) sed en performed, results unknown present	her Drugs
Applicable codes are found in NASS Data Collection, Coding Editing Manual. (999) Unknown 7. Body Type Note: Applicable codes may be the back of this page. 8. Vehicle Identification Number 1 2 3 4 5 6 7 8 9 10 Left justify; Slash zeros and le No VIN—Code all zeros Unknown—Code all nines OFFICIAL REC 9. Police Reported Vehicle Disposition (0) Not towed due to vehicle (1) Towed due to vehicle dam (9) Unknown	pe found on O Defound on O Defound on O Defound on O D D D D D D D D D D D D	AC 13. Speed Limit (000) No state Code posted of in kph (999) Unknow 15. mph x 1. 14. Attempted Av (01) No avoids (02) Braking (10) (03) Braking (10) (04) Braking (10) (05) Releasing (06) Steering (07) Steering (08) Braking a (09) Braking a (10) Accelerat (11) Accelerat (12) Accelerat (12) Accelerat (12) No driver (98) Other act (99) Unknown 15. Accident Type	or statutory speed limit or from - 21	
10. Police Reported Travel Speed Code to the nearest kph (NOT less than 0.5 kph) (160) 159.5 kph and above (999) Unknown mph X 1.6093 =	E: 000 means Vehicle Stopped kph	back of page t (00) No impac Code the num best describes	ber of the diagram that the accident circumsta cident type (specify):	
	_kph	(99) Unknown		

**** SKIP TO VARIABLE GV37 IF GV07 DOES NOT EQUAL 01-49 ****

CDS APPLICABLE VEHICLES

Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify):
- (09) Unknown automobile type

Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

Utility Vehicles (≤ 4,500 kgs GVWR)

- (14) Compact utility (Jeep CJ-2 CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Landcruiser, Rover, Scout)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

Van Based Light Trucks (≤ 4,500 kgs GVWR)

- (20) Minivan (Chrysler Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Dodge/Plymouth Vista, Aerostar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van (≤ 4,500 kgs GVWR)
- (23) Van based motorhome (≤ 4,500 kgs GVWR)
- (24) Van based school bus (≤ 4,500 kgs GVWR)
- (25) Van based other bus (≤ 4,500 kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify):
- (29) Unknown van type

Light Conventional Trucks (Pickup style cab, ≤ 4,500 kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500,)

- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

Other Light Trucks (≤ 4,500 kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify):
- (59) Unknown bus type

Medium/Heavy Trucks (> 4,500 kgs GVWR)

- (60) Step van (> 4,500 kgs GVWR)
- (61) Single unit straight truck (4,500 kgs < GVWR ≤ 8,850 kgs)
- (62) Single unit straight truck (8,850 kgs < GVWR ≤ 12,000 kgs)</p>
- (63) Single unit straight truck (> 12,000 kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify):
- (89) Unknown motored cycle type

Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

National Accident Sampling System-Crashworthiness Dat	a System: General Vehicle Form
OCCUPANT RELATED 16. Driver Presence in Vehicle (0) Driver not present (1) Driver present (9) Unknown 17. Number of Occupants This Vehicle (00-96) Code actual number of occupants for this vehicle (97) 97 or more (99) Unknown 18. Number of Occupant Forms Submitted VEHICLE WEIGHT ITEMS 19. Vehicle Curb Weight	24. Rollover (0) No rollover (no overturning) Rollover (primarily about the longitudinal axis) (1) Rollover, 1 quarter turn only (2) Rollover, 2 quarter turns (3) Rollover, 3 quarter turns (4) Rollover, 4 or more quarter turns (specify): (5) Rolloverend-over-end (i.e., primarily about the lateral axis) (9) Rollover (overturn), details unknown OVERRIDE/UNDERRIDE (THIS VEHICLE) 25. Front Override/Underride (this Vehicle)
Code weight to nearest 10 kilograms. (045) Less than 450 kilograms (610) 6,100 kilograms or more (999) Unknown 2	26. Rear Override/Underride (this Vehicle) (0) No override/underride, or not an end-to-end impact Override (see specific CDC) (1) 1st CDC (2) 2nd CDC (3) Other not automated CDC (specify): Underride (see specific CDC) (4) 1st CDC (5) 2nd CDC (6) Other not automated CDC (specify): (7) Medium/heavy truck or bus override (9) Unknown
(9) Unknown 22. Documentation of Trajectory Data for This Vehicle (0) No (1) Yes 23. Post Collision Condition of Tree or Pole (For Highest Delta V) (0) Not collision (for highest delta V) with tree or pole (1) Not damaged (2) Cracked/sheared (3) Tilted < 45 degrees (4) Tilted ≥ 45 degrees (5) Uprooted tree (6) Separated pole from base (7) Pole replaced (8) Other (specify): (9) Unknown	Values: (000)-(359) Code actual value (997) Noncollision (998) Impact with object (999) Unknown 27. Heading Angle For This Vehicle 28. Heading Angle For Other Vehicle

Cate- gory	Configur- ation	ACCIDENT TYPES (Includes Intent)		
-	A. Right Roadside Departure	THACTION I DOC MANDE AND THE	ECIFICS MER	06 SPECIFICS UNKNOWN
I. Single Driver	B. Left Roadside Departure	ORIVE OFF CONTROL/ AVOID COLLISION SP	ECIFICS	10 SPECIFICS UNKNOWN
	C Forward Impact			16 SPECIFICS
Trafficway Direction	D Rear-End	20 22 24 26 28 30 (E. 27) 21 22 24 25 27 31 SPI	ACH • 32)	(EACH • 33) SPECIFICS
II. Same Trafficwa Same Direction	h Forward Impact	34 001 20 00 00	•	42) (EACH + 43) SPECIFICS UNKNOWN
	F. Sideswipe Angle	44 45 45 (EACH • 48) SPECIFICS OTHER	(EACH SPECIFI	
.jv .ti.vn	G Head-On	50 51 (EACH • 52) (EACH • 53) SPECIFICS OTHER SPECIFICS UNKNOWN		
Same Trafficway Opposite Direction	H Forward Impact	CONTROL/ TRACTION LOSS 54 55 56 57 58 59 60 60 60 60 60 60 60 60 60 6	1	621(EACH • 63) SPECIFICS UNKNOWN
=	1. Sideswipe' Angle	65 (EACH • 66) (EACH • 67) SPECIFICS SPECIFICS UNKNOWN OTHER		UNKNOWA
Change Trafficway Vehicle Turning	J. Turn Across Path	69 71 70 73 72 INITIAL OPPOSITE INITIAL SAME DIRECTIONS DIRECTIONS	(EACH • 7	4) (EACH • 75) SPECIFICS
IV. Change Vehicle	K. Turn Into Path	76 79 81 82	(EACH • 8	UNKNOWN
V Intersecting Paths 19 (Vehicle Damage)	L. Straight Paths	TURN INTO SAME DIRECTION TURN INTO OPPOSITE DIRECTIONS (EACH • 90) 88 89 SPECIFICS OTHER	SPECIFICS OTHER (EACH • 9 SPECIFICS	
VI. Miscel- lancous	M. Backing Etc.	92 93 CT OTHER VEH. 98 Other Accident 99 Unknown Accident VEH. 00 No Impact	Type ent Type	

29. Basis for Total Delta V (highest)	Highest + Q Q
Delta V Calculated (1) CRASH program—damage only routine (2) CRASH program—damage and trajectory routine (3) Missing vehicle algorithm Delta V Not Calculated (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions. (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction technique, regardless of adequacy of damage data. (6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.	32. Lateral Component of Delta V Nearest kph (highest) Nearest kph (secondary) (NOTE: 000 means greater than
COMPUTER GENERATED DELTA V 30. Total Delta V Nearest kph (highest) Nearest kph (secondary) (NOTE: 000 means less than	34. Confidence In Reconstruction Program Results (For Highest Delta V) (0) No reconstruction (1) Collision fits model — results appear reasonable (2) Collision fits model — results appear high (3) Collision fits model — results appear low (4) Borderline reconstruction — results appear reasonable
0.5 kph) (160) 159.5 kph and above (999) Unknown 31. Longitudinal Component of + Q Q Q	(0) No inspection (1) Complete inspection (2) Partial inspection (specify):
Delta V Nearest kph (highest) Nearest kph (secondary) (NOTE:000 means greater than0.5 kph and less than +0.5 kph) (±160) ±159.5 kph and above (999) Unknown	36. Is this an AOPS Vehicle? (0) No (1) Yes - researcher determined (2) VIN determined air bag system (3) VIN determined automatic (passive) belts (4) VIN determined air bag and automatic (passive) belts
IS OLDMISS APPLICABLE FOR T IF YES: IS A COMPLETED OLDMISS PROGRA	

	rage
37. Police Reported Other Drug Presence (0) No other drug(s) present (1) Yes [other drug(s) present] (7) Not reported (8) No driver present	DRUG EVALUATION CLASSIFICATION OTHER DRUGS TEST RESULTS FOR DRIVER DEC Specimen Test Test
(9) Unknown 38. Police Reported Drug Evaluation Classification (DEC) Test For Driver (0) No DEC process available or given (1) DEC process given, results known (2) DEC process given, results unknown (3) DEC process available, unknown if given (8) No driver present	Narcotic Drug 40. 0 41. 0 Depressant Drug 42. 0 43. 0 Stimulant Drug 44. 0 45. 0 Hallucinogen Drug 46. 0 47. 0 Cannabinoid Drug 48. 0 49. 0 Phencyclidine (PCP) 50. 0 51. 0 Inhalant Drug 52. 0 53. 0 Other Drug (Excluding 54. 0 55. 0 Nicotine, Aspirin, Alcohol, Drugs Administered Post-Crash)
39. Other Drug Specimen Test Type For Driver (0) No specimen test given (1) Blood test (2) Urine test (3) Other specimen tests (specify): (7) Unspecified specimen test (8) No driver present (9) Unknown if specimen test given	Codes For DEC Test Results (0) No DEC test given (1) Passed DEC test (2) Failed DEC test (3) DEC test given—results unknown (8) No driver present (9) Unknown if DEC test given Codes for Specimen Test Results (0) No specimen test given (1) Drug not found in specimen (2) Drug found in specimen (7) Specimen test given, results unknown or not obtained (8) No driver present (9) Unknown if specimen test given

CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

(00) No rollover	(57) Fence
(01-30) — Vehicle Number	(58) Wall
	(59) Building
Noncollision	(60) Ditch or culvert
(31) Turn-over — fall-over	(61) Ground
(33) Jackknife	(62) Fire hydrant
•	(63) Curb
Collision With Fixed Object	(64) Bridge
(41) Tree (≤ 10 cm in diameter)	(68) Other fixed object (specify):
(42) Tree (> 10 cm in diameter)	
(43) Shrubbery or bush	(69) Unknown fixed object
(44) Embankment	(00) Omalowii iixod object
	Collision with Nonfixed Object
(45) Breakaway pole or post (any diameter)	(71) Motor vehicle not in-transport
	(76) Animal
Nonbreakaway Pole or Post	(77) Train
(50) Pole or post (≤ 10 cm in diameter)	(78) Trailer, disconnected in transport
(51) Pole or post (> 10 cm but ≤ 30 cm in	(79) Object fell from vehicle in-transport
diameter)	(88) Other nonfixed object (specify):
(52) Pole or post (> 30 cm in diameter)	(ac) called the mixed defect (specify).
(53) Pole or post (diameter unknown)	(89) Unknown nonfixed object
(54) Concrete traffic barrier	(98) Other event (specify):
(55) Impact attenuator	(00) Other Syerit (specify).
(56) Other traffic barrier (includes guardrail) (specify):	(99) Unknown event or object

	1 age
OTHER DATA	61. Rollover Initiation Object Contacted
66. Driver's Zip Code (0000) Driver not present (00001) Driver not a resident of U.S. or territories Code actual 5-digit zip code (99999) Unknown	62. Location on Vehicle Where Initial Principal Tripping Force Is Applied (0) No rollover (1) Wheels/tires (2) Side plane
57. Driver's Race/Ethnic Origin (0) Driver not present (1) White (non-Hispanic) (2) Black (non-Hispanic) (3) White (Hispanic) (4) Black (Hispanic) (5) American Indian, Eskimo or Aleut (6) Asian or Pacific Islander (8) Other (specify):	(3) End plane (4) Undercarriage (5) Other location on vehicle (specify): (8) Non-contact rollover forces (specify): (9) Unknown
(9) Unknown 58. Vehicle Special Use (This Trip) (0) No special use (1) Taxi (2) Vehicle used as school bus (3) Vehicle used as other bus (4) Military (5) Police (6) Ambulance	 (0) No rollover (1) Roll right - primarily about the longitudinal axis (2) Roll left - primarily about the longitudinal axis (5) End-over-end (i.e., primarily about the lateral axis) (9) Unknown roll direction
(7) Fire truck or car	PRECRASH DATA
(8) Other (specify):(9) Unknown	64. Pre-Event Movement (Prior to Recognition of Critical Event)
If GV07 (Body Type) ≠ 1-49, leave GV59-GV63 blank. If GV24 (Rollover) = 0, then GV59-GV63 must equal 0. If GV24 = 9, then GV59-GV63 must equal 9.	(01) Going straight (02) Slowing or stopping in traffic lane (03) Starting in traffic lane (04) Stopped in traffic lane (05) Passing or overtaking another vehicle (06) Disabled or parked in travel lane
59. Rollover Initiation Type (0) No rollover (1) Trip-over (2) Flip-over (3) Turn-over (4) Climb-over (5) Fall-over (6) Bounce-over (7) Collision with another vehicle (8) Other rollover initiation type specify): (9) Unknown rollover initiation type	(07) Leaving a parking position (08) Entering a parking position (09) Turning right (10) Turning left (11) Making a U-turn (12) Backing up (other than for parking position) (13) Negotiating a curve (14) Changing lanes (15) Merging (16) Successful avoidance maneuver to a previous critical event (97) Other (specify):
60. Location of Rollover Initiation	(98) No driver present (99) Unknown
 (0) No rollover (1) On roadway (2) On shoulder—paved (3) On shoulder—unpaved (4) On roadside or divided trafficway median (9) Unknown 	

PRECRASH DATA (Continued)

65. Critical Precrash Event

52

This Vehicle Loss of Control Due To:

- (01) Blow out or flat tire
- (02) Stalled engine
- (03) Disabling vehicle failure (e.g., wheel fell off) (specify):
- (04) Non-disabling vehicle problem (e.g., hood flew up) (specify):
- (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify):
- (06) Traveling too fast for conditions
- (08) Other cause of control loss (specify):
- (09) Unknown cause of control loss

This Vehicle Traveling

- (10) Over the lane line on left side of travel lane
- (11) Over the lane line on right side of travel lane
- (12) Off the edge of the road on the left side
- (13) Off the edge of the road on the right side
- (14) End departure
- (15) Turning left at intersection
- (16) Turning right at intersection
- (17) Crossing over (passing through) intersection
- (19) Unknown travel direction

Other Motor Vehicle In Lane

- (50) Stopped
- (51) Traveling in same direction with lower speed (i.e., lower steady speed or decelerating)
- (52) Traveling in same direction with higher speed
- (53) Traveling in opposite direction
- (54) In crossover
- (55) Backing
- (59) Unknown travel direction of other motor vehicle in lane

Other Motor Vehicle Encroaching Into Lane

- (60) From adjacent lane (same direction)—over left lane line
- (61) From adjacent lane (same direction)—over right lane line
- (62) From opposite direction—over left lane line
- (63) From opposite direction—over right lane line
- (64) From parking lane
- (65) From crossing street, turning into same direction
- (66) From crossing street, across path
- (67) From crossing street, turning into opposite direction
- (68) From crossing street, intended path not known
- (70) From driveway, turning into same direction
- (71) From driveway, across path
- (72) From driveway, turning into opposite direction
- (73) From driveway, intended path not known
- (74) From entrance to limited access highway
- (78) Encroachment by other vehicle—details unknown

Pedestrian or Pedalcyclist, or Other Nonmotorist

- (80) Pedestrian in roadway
- (81) Pedestrian approaching roadway
- (82) Pedestrian—unknown location
- (83) Pedalcyclist or other nonmotorist in roadway (specify):
- (84) Pedalcyclist or other nonmotorist approaching roadway (specify):
- (85) Pedalcyclist or other nonmotorist—unknown location (specify):

Object or Animal

- (87) Animal in roadway
- (88) Animal approaching roadway
- (89) Animal—unknown location
- (90) Object in roadway
- (91) Object approaching roadway
- (92) Object—unknown location
- (98) Other critical precrash event (specify):
- (99) Unknown

For Corrective Actions Attempted see variable GV14 (Attemped Avoidance Manuever)

66. Precrash Stability After Avoidance Maneuver



- (0) No avoidance maneuver
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally-clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify):
- (8) No driver present
- (9) Precrash stability unknown

67. Precrash Directional Consequences of Avoidance Maneuver (Corrective Action)



- (1) Vehicle stayed in travel lane where avoidance maneuver was initiated
- (2) Vehicle stayed on roadway but left travel lane where avoidance maneuver was initiated
- (3) Vehicle stayed on roadway, not known if left travel lane where avoidance maneuver was initiated
- (4) Vehicle departed roadway
- (5) Avoidance maneuver initiated off roadway
- (8) No driver present
- (9) Directional consequences unknown

*** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), *** DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

*** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE ***
THE EXTERIOR VEHICLE, INTERIOR VEHICLE,
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.



U.S. Department of Transportation National Highway Traffic Safety Administration

INTERVIEW FORM (A)

NATIONAL ACCIDENT SAMPLING SYSTEM CRASHWORTHINESS DATA SYSTEM

Administration	
1. Primary Sampling Unit Number	Interviewee(s) Role or Name(s):
2. Case Number - Stratum	
A13-16	
3. Vehicle Number	
Review all available information and interview of acquisition of all pertinent data.	questions prior to conducting interview(s) to ensure the
If the driver was not the person interviewed, w	vas an appointment made for a follow-up interview?
DRIVER'S DESCR	RIPTION OF ACCIDENT EVENTS
DRIVER 3 DECOR	
It was	plain and simple.
I came to a sto	op at light and
3-4 Secon	ds Caffer L got
x00x00dal	
rearended.	
Are the o	ther people sueing?
OCCUPANT'S DES	SCRIPTION OF ACCIDENT EVENTS
OCCOTANT O DEC	
	1 422P. These reports are authorized by



U.S. Department of Transportation National Highway Traffic Safety

INTERVIEW FORM (B)

NATIONAL ACCIDENT SAMPLING SYSTEM

National Highway Traffic Safety INTER	VIEW FURIVI (B) CRASHWORTHINESS DATA SYSTEM
1. Primary Sampling Unit Number 2. Case Number - Stratum	Interviewee(s) Role or Name(s): Driver
3. Vehicle Number	
ACCIDEN	T DATA QUESTIONS
	[] Braking with lock-up [] Braking without lock-up [] Releasing brakes [] Accelerating [] Steering left [] Steering right [] Other (specify):
accident? [] No - Go to question 7 [] Yes - Go to question 6a	

ional Accident Sampling System-Crashworthiness Data	System: Interview Form (B) Page
. Primary Sampling Unit Number	3. Vehicle Number
2. Case Number - Stratum DSI-94-AB-1	4. Occupant Number <u>O 1</u>
VEHICLE/DRIVER D	DATA QUESTIONS
1. Can you tell me the year, make, model of your vehicle? 1 9 Year Make Model 2. Can you describe the damage to your vehicle?	7b. Were any of the belts removed or not functional prior to the accident? [] No [] Yes (If "Yes", specify which belt and describe problem)
3. Was there any previous damage to your vehicle that is not related to this accident? [] No [] Yes (If "yes", describe below)	8. Do any of the front belts move along a motorized track when the door is opened or closed? [] No (If "No", go to question 9) [] Yes (If "Yes", what seat location?) [] Left Front [] Right Front
4. Did any of the doors (hatch, tailgate) open during the accident? [] No [] Yes (If "Yes", describe below)	8a. Were the motorized belts working properly before the accident? [] No (If "No", describe condition below) [] Yes
5. Did any of the windows break during the accident? [] No [] Yes (If "Yes", describe below)	8b. Were the belts connected to the track prior to the accident? [] No [] Yes [] Unknown
6. Does your vehicle have a glove compartment? [] No [] Yes	9. Do any of the front "seat" belts attach to the door such that when the door is opened the belt travels with the door?[] No (go to question 10)[] Yes
 6a. Did the glove compartment door come open during the accident? No Yes Unknown 7. Does your vehicle have "seat belts"? 	9a. Does this belt come across the? [] Chest only [] Lap and chest 9b. Was this belt connected prior to the accident? [] No
[] No (If "No", go to question 7b) [] Yes (If "Yes", go to question 7a)	[] Yes [] Unknown
7a. Can you describe the type of seat belt for each seat? Driver's seat [] Lap [] Lap and shoulder Front seat middle [] Lap [] Lap and shoulder	AIR BAGS 10. Is your vehicle equipped with a driver's side air bag?
Front seat right [] Lap [] Lap and shoulder Rear seat left [] Lap [] Lap and shoulder Rear seat middle [] Lap [] Lap and shoulder Rear seat right [] Lap [] Lap and shoulder	[] No (go to question 11) [] Yes (go to question 10a) [] Unknown (go to question 11)
(Identify seat belts for third row and beyond	10a. Did the air bag inflate during the accident? [] No (go to questions 10b and 10c) [] Yes (go to question 10e)

1.	Primary	Sampling	Unit	Number
٠.	, , , , , , ,	Oup8		

3. Vehicle N	Number
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1. Primary Sampling Unit Number	3. Verlicie Nulliber
2. Case Number - Stratum DSI-94-48-16	4. Occupant Number
VEHICLE/DRIVER DATA QU	JESTIONS (CONTINUED)
VEHICLE/DRIVER DATA QUE 10b. Was the air bag wiring disconnected prior to the accident? No	CHILD SAFETY SEAT 12. Was there a person in a child safety seat in your vehicle? Mo (If "No", go to question 13)
[] Yes	
[] Unknown	

ional Accident Sampling System-Crashworthiness Data . Primary Sampling Unit Number	3. Vehicle Number
. Case Number - Stratum DST-94-AB-16	4. Occupant Number
VEHICLE/DRIVER DATA Q	UESTIONS (CONTINUED)
VEINGE-/	OPTIONAL
2h. Were any of these items added after you owned the child safety seat? [] Yes	If you do not know where the vehicle is or if the owner's permission is needed for inspection. 15. Do you know where the vehicle is currently located?

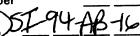
. Primary Sampling Unit Number	~ 1
. Case Number - Stratum DSI-94-AB-16	4. Occupant Number
OCCUPANT DAT	A QUESTIONS
I. Was there anyone else in your vehicle at the time of the accident? [] No (If "No", go to question 4) [] Yes (If "Yes", specify number in question 2 below and then go to question 3) [] Unknown	5d. Were you (Was he/she) [] Sitting upright or [] Leaning to left side, or [] Leaning to right side? OCCUPANT EJECTION
2. How many? [1] One other person [2] Two other persons [3] Three other persons [4] Four other persons [5] Five other persons [6] Six other persons [7] Seven or more other persons (specify number:)	 6. Were you (Was he/she) or any part of your (his/her) body thrown from the vehicle during the accident? No (If "No", go to question 7) Yes (If "Yes", go to question 6a) Unknown 6a. Can you remember out of what area of the vehicle you were (he/she was) thrown? No Yes (Describe:)
3. Where was this person sitting? (Circle seating positions)	OCCUPANT RESTRAINT
[12] [13] [21] [22] [23] [31] [32] [33] [] Other (specify:)	7. Were you (Was he/she) wearing a seat belt just before the accident? [] No (If "No", go to question 8) [] Yes
OCCUPANT CHARACTERISTICS	[] Unknown
4. Can I have your his/her) height, weight, age, and sex? Height Weight 90 Age 53 Sex: [VMale [] Female	7a. Were you (Was he/she) wearing the [] Lap belt? [] Lap and Shoulder belt? [] Shoulder belt?
5. Can you tell me how you (he/she was) were sitting in your vehicle?	7b. Can you describe how you were (he/she was) wearin the lap belt? [] Across the stomach [] Low on lap [] Other (specify:)
5a. Can you describe the location of your (his/her) feet just prior to the collision?	7c. Can you describe how you were (he/she was) wearing the shoulder belt? [] Over the shoulder [] Under the arm [] Behind the back [] Behind the seat [] Other (specify:)
5b. Can you describe the location of your (his/her) arms?	7d. Did any part of the belt system break or tear? [] No [] Yes (If "Yes", describe) [] Unknown
5c. Was your (his/her) back resting against the seat back rest? [] No (If "No", describe the position) [] Yes	8. Were you (Was he/she) trapped in the vehicle? [] No [] Yes (If "Yes", describe)
	•

The space provided on the back of this page may be used to document injuries noted by the interviewee(s).

National Accident Sampling System-Crashworthiness Data System: Interview Form (B)

Page 8

- 1. Primary Sampling Unit Number
- 2. Case Number Stratum



3. Vehicle Number

4. Occupant Number

0)
0	

OCCUPANT I	NJURY D	ATA QUES	TIONS
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OCCUPANT INJUNT	
1. Were you (Was he/she) injured? [] No (If "No", skip to question 7) [] Yes (If "Yes", complete Occupant Injury Questions) [] Unknown	 5a. Do you know what caused this injury? [] No [] Yes (If "Yes", specify the component(s) on the manikin(s).) [] Unknown
2. Did you (he/she) receive any cuts, abrasions, or bruises? [] No (go to question 3) [] Yes (If "Yes", record the exact location(s) and size on the manikin(s).) [] Unknown	 6. Did you (he/she) suffer any joint sprains or muscle strains? [] No (If "No", go to question 7) [] Yes (If "Yes", specify on the manikin(s), and then go to question 6a.)
2a. Do you know what caused your (his/her) injury(s)? [] No [] Yes (If "Yes", specify the component(s) or object(s) on the manikin(s).) [] Unknown	 [] Unknown 6a. Do you know what caused the injury(s)? [] No [] Yes (If "Yes", specify the component(s) on the manikin(s).)
3. Did you (he/she) experience any broken bones? [] No (If "No", go to question 4) [] Yes (If "Yes", record the exact location(s) and type of fracture(s) on the manikin(s), and then go to question 3a.) [] Unknown	 [] Unknown 7. Did you (he/she) receive any treatment? [] No (If "No", go to question 8) [] Yes (If "Yes", go to question 7a or return to question 2.)
 3a. Do you know what caused the injury(s)? [] No [] Yes (If "Yes", specify the component(s) or object(s) on the manikin(s).) [] Unknown 	7a. Were you (Was he/she) treated by (check all that apply): [] Hospital/trauma center? (specify hospital name): [] Medical clinic
 4. Did you (he/she) injure your (his/her) head? (skull/brain?) [] No (If "No", go to question 5) [] Yes (If "Yes", describe the type of injury(s) on the manikin(s), then go to question 4a.) [] Unknown 	[] Out patient surgery? (specify medica facility:) [] Paramedics or first aid at the scene? [] A doctor in his/her office? [] Treated at home? [] None of the above, go to question 8.
4a. Do you know what caused the injury(s)? [] No [] Yes (If "Yes", specify the component(s) on the manikin(s).) [] Unknown	7b. Were you (Was he/she) treated and released from the emergency room? [] No (If "No", go to question 7c.) [] Yes (If "Yes", go to question 7e.) 7c. Were you (Was he/she) hospitalized?
 5. Were any of your (his/her) internal organs injured? [] No (If "No", go to question 6) [] Yes (If "Yes", thoroughly describe the type of injury(s) and specify the internal organ(s) injured on the manikin(s), and then go to question 5a.) [] Unknown 	[] No (If "No", give an explanation) [] Yes (If "Yes", go to question 7d.)

Primary Sampling Unit Number	3. Vehicle Number	
Case Number - Stratum DSI-94-ABIL	4. Occupant Number	
OCCUPANT INJURY DATA QUESTIONS (CONTINUED)		
treatment? [] No [Yes (If "Yes", describe:)	8. Have you (he/she) lost any days from work or sch (college)? [] No [] Yes (If "Yes", determine the number of days to (Specify:) [] Not working prior to the accident [] Unknown	
f. In order to achieve the best possible scientific data regarding your (his/her) injury(s), we need to obtain a copy of your (his/her) medical reports. Would you (he/she) sign a medical release form? [] No [] Yes (If "Yes", mail or present the form for signature.)		
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ational Accident Sampling System-Crashworthiness Data	
1. Primary Sampling Unit Number 3. Vehicle Number	
2. Case Number - Stratum DSI-94-AB-16.0c	
OCCUPANT DATA QUE	STIONS SUPPLEMENT
Who was the next occupant in your vehicle at the time of the accident?	5d. Were you (Was he/she) [] Sitting upright or [] Leaning to left side, or [] Leaning to right side?
	OCCUPANT EJECTION
2. Occupant Number of	 6. Were you (Was he/she) or any part of your (his/her) body thrown from the vehicle during the accident? [] No (If "No", go to question 7) [] Yes (If "Yes", go to question 6a) [] Unknown
Where were you (was this person) sitting? (Circle seating positions)	6a. Can you remember out of what area of the vehicle you were (he/she was) thrown? [] No [] Yes (Describe:)
[12] [13] [21] [22] [23]	
[31] [32] [33]	OCCUPANT RESTRAINT
[] Other (specify:)	7. Were you (Was he/she) wearing a seat belt just before
OCCUPANT CHARACTERISTICS	the accident? [] No (If "No", go to question 8)
4. Can I have your (his/her) height, weight, age, and sex?	[] Yes [] Unknown
Height Weight Age	7a. Were you (Was he/she) wearing the
Sex: [] Male [] Female	[] Lap belt? [] Lap and Shoulder belt?
OCCUPANT POSTURE	[] Shoulder belt?
5. Can you tell me how you (he/she) was sitting in the vehicle?	7b. Can you describe how you were (he/she was) wearing the lap belt? [] Across the stomach [] Low on lap [] Other (specify:)
	[] Unknown
5a. Can you describe the location of your (his/her) feet just prior to the collision?	7c. Can you describe how you were (he/she was) wearing the shoulder belt? [] Over the shoulder [] Under the arm [] Behind the back [] Behind the seat [] Other (specify:)
5b. Can you describe the location of your (his/her) arms?	7d. Did any part of the belt system break or tear? [] No [] Yes (If "Yes", describe)
	[] Unknown
5c. Was your (his/her) back resting against the seat back rest? [] No (If "No", describe the position)	OCCUPANT ENTRAPMENT 8. Were you (Was he/she) trapped in the vehicle?
[] Yes [] Unknown	[] No [] Yes (If "Yes", describe)
	[] Unknown

HS Form 433G (1/94)

OCCUPANT ACC	Form Approved O.M.B. No. 2127-0021
National Highway Traffic Safety UCCUPAN I ASS Administration	O.M.B. No. 2127-0021 SESSMENT FORM NATIONAL ACCIDENT SAMPLING SYSTEM CRASHWORTHINESS DATA SYSTEM
1. Primary Sampling Unit Number 2. Case Number - Stratum	OCCUPANT'S SEATING 10. Occupant's Seat Position Front Seat
3. Vehicle Number 4. Occupant Number	(11) Left side (12) Middle (13) Right side
OCCUPANT'S CHARACTERISTICS	(14) Other (specify):
5. Occupant's Age Code actual age at time of accident. (00) Less than one year old (specify by month): (97) 97 years and older (99) Unknown	(15) On or in the lap of another occupant Second Seat (21) Left side (22) Middle (23) Right side (24) Other (specify): (25) On or in the lap of another occupant
6. Occupant's Sex (1) Male (2) Female (9) Unknown	Third Seat (31) Left side (32) Middle (33) Right side (34) Other (specify): (35) On or in the lap of another occupant
7. Occupant's Height Code actual height to the nearest centimeter. (999) Unknown 72_inches X 2.54 = 182.8 centimeters	Fourth Seat (41) Left side (42) Middle (43) Right side (44) Other (specify): (45) On or in the lap of another occupant (97) In or on unenclosed area (98) Other seat (specify):
8. Occupant's Weight Code actual weight to the nearest kilogram. (999) Unknown 190 pounds X .4536 = 86. kilograms	(99) Unknown 11. Occupant's Posture (0) Normal posture Abnormal posture (1) Kneeling or standing on seat (2) Lying on or across seat
9. Occupant's Role (1) Driver (2) Passenger (9) Unknown	(3) Kneeling, standing or sitting in front of seat (4) Sitting sideways or turned to talk with another occupant or to look out a rear window (5) Sitting on a console (6) Lying back in a reclined seat position (7) Bracing with feet or hands on a surface in front of seat (8) Other abnormal posture (specify):

. - - -

EJECTION/ENTRAPMENT		
12. Ejection (0) No ejection (1) Complete ejection (2) Partial ejection (3) Ejection, unknown degree (9) Unknown	Q	15. Medium Status (Immediately Prior To Impact) (0) No ejection (1) Open (2) Closed (3) Integral structure (9) Unknown
13. Ejection Area (0) No ejection (1) Windshield (2) Left front (3) Right front (4) Left rear (5) Right rear (6) Rear (7) Roof (8) Other area (e.g., back of pickup, etc.) (specify): (9) Unknown	0	16. Entrapment (NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.) (0) Not entrapped (1) Entrapped (9) Unknown
14. Ejection Medium (0) No ejection (1) Door/hatch/tailgate (2) Nonfixed roof structure (3) Fixed glazing (4) Nonfixed glazing (specify): (5) Integral structure (8) Other medium (specify): (9) Unknown	<u>O</u>	

	RESTRAINT SYS	TEM EVALUATION
17.	Manual (Active) Belt System Availability (0) None available (1) Belt removed/destroyed (2) Shoulder belt (3) Lap belt	21. Air Bag System Availability/Function (0) Not equipped/not available (1) Air bag
	(4) Lap and shoulder belt(5) Belt available—type unknown	Non-functional (2) Air bag disconnected (specify):
	Integral Belt Partially Destroyed (6) Shoulder belt (lap belt destroyed/removed) (7) Lap belt (shoulder belt destroyed/removed)	(3) Air bag not reinstalled (9) Unknown
	(8) Other belt (specify):	22. Air Bag System Deployment
	(9) Unknown	(0) Not equipped/not available (1) Air bag deployed during accident (as a result of impact)
18.	Manual (Active) Belt System Use (00) None used, not available, or belt	(2) Air bag deployed inadvertently just prior to accident
	removed/destroyed (01) Inoperative (specify):	(3) Air bag deployed, accident sequence undetermined
	(02) Shoulder belt (03) Lap belt	(4) Nondeployed (5) Unknown if deployed (6) Air bag deployed as a result of a result is
	(04) Lap and shoulder belt (05) Belt used—type unknown (08) Other belt used (specify):	 (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical) (9) Unknown
	(12) Shoulder belt used with child safety seat(13) Lap belt used with child safety seat(14) Lap and shoulder belt used with child	23. Are There Indications of Air Bag
	safety seat (15) Belt used with child safety seat—type upknown	System Failure? (0) Not equipped/not available
	(18) Other belt used with child safety seat (specify): (99) Unknown if belt used	(1) No (2) Yes (specify):
.,		(9) Unknown
	Proper Use of Manual (Active) Belts (0) None used or not available (1) Belt used properly (2) Belt used properly with child safety seat	Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts
	 Belt Used Improperly (3) Shoulder belt worn under arm (4) Shoulder belt worn behind back or seat (5) Belt worn around more than one person (6) Lap belt worn on abdomen (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): 	24. Police Reported Restraint Use (0) None used (1) Police did not indicate restraint use (2) Shoulder belt (3) Lap belt (4) Lap and shoulder belt
	(8) Other improper use of manual belt system (specify):	(5) Belt used, type not specified (6) Child safety seat
	(9) Unknown	(7) Other or automatic restraint (specify): (8) Restrained, type unknown
	Manual (Active) Belt Failure Modes During Accident (0) No manual belt used (1) No manual belt failure(s) (2) Torn webbing (stretched webbing not included) (3) Broken buckle or latchplate (4) Upper anchorage separated (5) Other anchorage separated (specify):	(9) Police indicated "unknown"
	(6) Broken retractor (7) Combination of above (specify):	
	(8) Other manual belt failure (specify):	
	(9) Unknown	

Natio	onal Accident Sampling System-Crashworthiness Date	a System: Occupant Assessment Form	Page
		ND SEAT EVALUATION	
25.	Head Restraint Type/Damage by Occupant at This Occupant Position (0) No head restraints (1) Integral—no damage (2) Integral—damaged during accident (3) Adjustable—no damage (4) Adjustable—damaged during accident (5) Add-on—no damage (6) Add-on—damaged during accident (8) Other (specify):	27. Seat Performance (this Occupant Position) (0) Occupant not seated or no seat (1) No seat performance failure(s) (2) Seat adjusters failed (3) Seat back folding locks or "seat back" for specify): (4) Seat track/anchors failed (5) Deformed by impact of occupant (6) Deformed by passenger compartment int (specify):	k"
	Seat Type (this Occupant Position) (00) Occupant not seated or no seat (01) Bucket (02) Bucket with folding back (03) Bench (04) Bench with separate back cushions (05) Bench with folding back(s) (06) Split bench with separate back cushions (07) Split bench with folding back(s) (08) Pedestal (i.e., column supported) (09) Other seat type (specify): (10) Box mounted seat (i.e., van type) (99) Unknown	(7) Combination of above (specify): (8) Other (specify): (9) Unknown * Par drive	P.

	CHILD S	AFET'	Y SEAT	
28.	Child Safety Seat Make/Model (000) No child safety seat Applicable codes are found in your NASS CDS		Child Safety Seat Harness Usage	00
	Data Collection, Coding and Editing (950) Built-in child safety seat (997) Other make/model (specify):		Child Safety Seat Shield Usage	00
	(998) Unknown make/model (999) Unknown if child safety seat used	33.	Child Safety Seat Tether Usage Note: Options below applicable to Variables OA31-OA33. (00) No child safety seat	<u>00</u>
	Type of Child Safety Seat (0) No child safety seat (1) Infant seat (2) Toddler seat (3) Convertible seat (4) Booster seat (7) Other type child safety seat (specify): (8) Unknown child safety seat type (9) Unknown if child safety seat used Child Safety Seat Orientation (00) No child safety seat Designed for Rear Facing for This Age/Weight (01) Rear facing (02) Forward facing (08) Other orientation (specify): (09) Unknown orientation Designed For Forward Facing for This Age/Weight (11) Rear facing (12) Forward facing (13) Other orientation (specify): (19) Unknown orientation Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight (21) Rear facing (22) Forward facing (23) Other orientation (specify): (29) Unknown orientation (99) Unknown if child safety seat used		Not Designed With Harness/Shield/Tethe added, not used (02) After market harness/shield/tether added, Colid safety seat used, but no after harness/shield/tether added (03) Child safety seat used, but no after harness/shield/tether added (09) Unknown if harness/shield/tether added or used Designed With Harness/Shield/Tether (11) Harness/shield/tether not used (12) Harness/shield/tether used (19) Unknown if harness/shield/tether Unknown If Designed With Harness/Shield/tether used (21) Harness/shield/tether used (22) Harness/shield/tether used (29) Unknown if harness/shield/tether (99) Unknown if child safety seat used	er used ter market used nield/Tether

INJURY CONSEQUENCES	0(0
34. Injury Severity (Police Rating) (0) O - No injury (1) C - Possible injury (2) B - Nonincapacitating injury (3) A - Incapacitating injury (4) K - Killed (5) U - Injury, severity unknown (6) Died prior to accident	28. Working Days Lost Code the number of days (up through 60) that the occupant lost from work due to the accident (00) No working days lost (61) 61 days or more (62) Fatally injured (97) Not working prior to accident (99) Unknown
(9) Unknown	STOP - GO TO VARIABLE 44 ON PAGE 7
35. Treatment - Mortality (0) No treatment (1) Fatal	VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER
(2) Fatal - ruled disease (specify):	39. Time to Death
Nonfatal (3) Hospitalization (4) Transported and released (5) Treatment at scene - nontransported (6) Treatment later (8) Treatment - other (specify):	Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, n days = 30 + n up through 30 days = 60) (00) Not fatal (96) Fatal - ruled disease (99) Unknown
36. Type Of Medical Facility (for Initial Treatment)	40. 1st Medically Reported Cause of Death O
(0) Not treated at a medical facility (1) Trauma center (2) Hospital (3) Medical clinic (4) Physician's office (5) Treatment later at medical facility (8) Other (specify):	41. 2nd Medically Reported Cause of Death 42. 3rd Medically Reported Cause of Death Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
(9) Unknown	(00) Not fatal or no additional causes (96) Mode of death given but specific injuries are not linked to cause of death. (specify):
37. Hospital Stay (00) Not Hospitalized Code the number of days (up through 60) that the occupant stayed in hospital.	(97) Other result (includes fatal ruled disease) (specify):
(61) 61 days or more (99) Unknown	(99) Unknown
_	43. Number of Recorded Injuries for This Occupant Code the actual number of injuries recorded for this occupant. (00) No recorded injuries (97) Injured, details unknown (99) Unknown if injured

	Automatic (Passive) Belt System Availability/ Function (0) Not equipped/not available (1) 2 point automatic belts (2) 3 point automatic belts (3) Automatic belts - type unknown Non-functional (4) Automatic belts destroyed or rendered inoperative (9) Unknown Automatic (Passive) Belt System Use	0	Du (0) (1) (2) (3) (4) (5) (6) (7) (8)	Intomatic (Passive) Belt Failure Modes Iring Accident Not equipped/not available/not in use No automatic belt failure(s) Torn webbing (stretched webbing not include Broken buckle or latchplate Upper anchorage separated Other anchorage separated (specify): Broken retractor Combination of above (specify): Other automatic belt failure (specify): Unknown	⊘
46.	 (0) Not equipped/not available/destroyed or rendered inoperative (1) Automatic belt in use (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify): (3) Automatic belt use unknown (9) Unknown Automatic (Passive) Belt System Type (0) Not equipped/not available (1) Non-motorized system 	<u>O</u>	(0) (1) (2) (3) (4) (8)	at Orientation (this Occupant Position) Occupant not seated or no seat Forward facing seat Rear facing seat Side facing seat (inward) Side facing seat (outward) Other (specify): Unknown	
47.	(2) Motorized system (3) Unknown Proper Use of Automatic (Passive) Belt System (0) Not equipped/not available/not used (1) Automatic belt used properly (2) Automatic belt used properly with child safety seat Automatic Belt Used Improperly (3) Automatic shoulder belt worn under arm (4) Automatic shoulder belt worn behind back (5) Automatic belt worn around more than one person (6) Lap portion of automatic belt worn on abdomen (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): (8) Other improper use of automatic belt syste (specify): (9) Unknown	<u>O</u>	Us [] [] []	leck the Primary Source Used In Determining Bie. Not equipped/not available/destroyed or rendered inoperative Vehicle inspection Official injury data Driver/occupant interview Other (specify): Unknown if belt used	elt
	ARE ALL APPLICABLE MEDICAL RIWITH INITIAL SUBMISSION?	ECOF	DS IN	CLUDED NO[] YES[]	
	UPDATE CANDIDA	TE?	N	O[] YES[]	

STOP - VARIABLES 50 THROUGH 53 ARE	BELT USE DETERMINATION	
TRAUMA DATA 50. Glasgow Coma Scale (GCS) Score (at Medical Facility) (00) Not injured (01) Injured - not treated at medical facility (02) No GCS Score at medical facility (03-15) Code the actual value of the initial GCS Score recorded at medical facility. (97) Injured, details unknown (99) Unknown if injured		2
51. Was the Occupant Given Blood? (1) No - blood not given (2) Yes - blood given (specify units): (9) Unknown if blood given		
52. Arterial Blood Gases (ABG) – HCO ₃ (00) Not injured (01) Injured, ABGs not measured or reported (02-50) Code the actual value of theHCO ₃ (96) ABGs reported, HCO ₃ unknown (97) Injured, details unknown (99) Unknown if injured		

National Highway Traffic Safety Administration

OCCUPANT INJURY FORM

NATIONAL ACCIDENT SAMPLING SYSTEM CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

02

4. Occupant Number

01

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

				A.I.S	90				Injury	Occupant	
	Source of Injury Data	Body Region	Type of Anatomic Structure	Anatomic Anatomic		Level of A.I.S. Injury Severity		Injury Source	Source Confidence Level	Direct/ Indirect Injury	Area
1st	5.7	6. <u>6</u>	<u>,,4</u>	8. <u>02</u>	s. <u>78</u>	10.	116	12.92	. 13	14.3	15. <u>0</u> 0
2nd	16	17	181	9	20	21	22	23	24	25	26
3rd	27	28	29 3	o	31	32	83	34	35	36	37
4th	38	39	40 4	1	42	43	44	45	46	47	48
5th	49	50	51 5	2	53	54	55	56	57	58	59
6th	60	61	626	3	64	65	66	67	68	69	70
7th	71	72.	737	á	75	76	77	78	79	BO	81
8th	82	83	84 8	5	86	87	88	89	90	91	92
9th	93	94	959	6	97	98	99	100	101 1	02 1	03
10th	104	105 1	06 10	71	108	109	110	111	112 1	131	14

HS Form 433B (1/94)

This report is authorized by P.L. 89-563, Title 1, Section 106, 108, and 112. While you are not required to respond, your cooperation is needed to make the results of this data collection effort comprehensive, accurate, and timely.

OCCUPANT INJURY DATA											
	Source of Injury Data	Body Region	Type of Anatomic Structure	A.I.S 90 Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
11th											-
12th			_	——					_		-
13th			<u> </u>						<u>—</u>		
14th			—								
15th			_			_	_				
16th									_		
17th		-				_					
18th											
19th											
20th							,				
21st											
22nd											
23rd											
24th						_		 			
25th						-					
Zom	 -	 '}					-				

SOURCE OF INJURY DATA (25) Left side window glass or frame (61) Backlight storage rack, door, etc. **OFFICIAL** (26) Left side window glass including (62) Other rear object (specify): (1) Autopsy records with or without hospital/ one or more of the following: medical records frame, window sill, A (A1/A2)-pillar, Hospital/medical records other than B-pillar, or roof side rail. EXTERIOR of OCCUPANT'S VEHICLE emergency room (e.g., discharge (27) Other left side object (specify): (65) Hood summary) Outside hardware (e.g., outside (3) Emergency room records only (including (28) Left side window sill mirror, antenna) associated X-rays or other lab reports) Other exterior surface or tires (4) Private physician, walk-in or emergency RIGHT SIDE (specify):_ clinic (30) Right side interior surface, (68) Unknown exterior objects excluding hardware or armrests UNOFFICIAL Right side hardware or armrest **EXTERIOR OF OTHER MOTOR VEHICLE** (5) Lay coroner report (32) Right A (A1/A2)-pillar (70) Front bumper (6) E.M.S. personnel (33) Right B-pillar (71) Hood edge 171 Interviewee (34) Other right pillar (specify): (72) Other front of vehicle (specify): (8) Other source (specify): Right side window glass or frame (73) Hood (9) Police Right side window glass including (74) Hood ornament one or more of the following: (75) Windshield, roof rail, A-pillar frame, window sill, A (A1/A2)-pillar, (76) Side surface **INJURY SOURCE** B-pillar, or roof side rail. (77) Side mirrors (37) Other right side object (specify): **FRONT** (78) Other side protrusions (specify) (01) Windshield (O2) Mirror (38) Right side window sill Rear surface (03) Sunvisor (80) Undercarriage (04) Steering wheel rim INTERIOR (81) Tires and wheels (05) Steering wheel hub/spoke (40) Seat, back support (82) Other exterior of other motor vehicle (06) Steering wheel (combination (41) Belt restraint webbing/buckle (specify): of codes 04 and 05) (42) Belt restraint B-pillar or door frame (07) Steering column, transmission attachment point (83) Unknown exterior of other motor vehicle selector lever, other attachment (43) Other restraint system component (08) Add on equipment (e.g., CB, tape (specify): OTHER VEHICLE OR OBJECT IN THE deck, air conditioner) (44) Head restraint system **ENVIRONMENT** (09) Left instrument panel and below (45) Air bag (use codes "16" and "17" for injuries (84) Ground (10) Center instrument panel and below sustained from air bag compartment covers) (85) Other vehicle or object (specify) (11) Right instrument panel and below (46) Other occupants (specify): (12) Glove compartment door (86) Unknown vehicle or object (13) Knee bolster (47) Interior loose objects (14) Windshield including one or more (48) Child safety seat (specify): NONCONTACT INJURY of the following: front header, (90) Fire in vehicle A (A1/A2)-pillar, instrument panel, (49) Other interior object (specify): (91) Flying glass mirror, or steering assembly (driver Other noncontact injury source (92)side only) (specify): (15) Windshield including one or more ROOF (93) Air bag exhaust gases of the following: front header, (50) Front header (97) Injured, unknown source A (A1/A2)-pillar, instrument panel, or (51) Rear header mirror (passenger side only) (52) Roof left side rail **INJURY SOURCE CONFIDENCE** (16) Driver side air bag compartment cover (53) Roof right side rail LEVEL (17) Passenger side air bag compartment cover (54) Roof or convertible top (1) Certain (18) Windshield reinforced by exterior object (2) Probable (specify): (19) Other front object (specify): (3) Possible (56) Floor (including toe pan) Unknown (57) Floor or console mounted transmission lever, including LEFT SIDE console **DIRECT/INDIRECT INJURY** (20) Left side interior surface, (58) Parking brake handle Direct contact injury excluding hardware or armrests (59) Foot controls including parking (21) Left side hardware or armrest Indirect contact injury brake (22) Left A (A1/A2)-pillar Noncontact injury injured, unknown source

- (23) Left B-pillar
- (24) Other left pillar (specify):

REAR

OCCUPANT INJURY CLASSIFICATION

(60) Backlight (rear window)

Body Region

- Head (2)
- Face (3) Neck
- (4) Thorax
- (5) Abdomen
- Spine (6)
- **Upper Extremity**
- (8) **Lower Extremity**
- Unspecified

Type of Anatomic Structure

- (1) Whole Area
- (2) Vessels
- (3) Nerves
- (4)Organs (includes muscles/ ligaments) Skeletal (includes joints)
- (5) Head - LOC
- (9)

Specific Anatomic Structure

- Whole Area (02) Skin Abrasion (04) Skin Contusion (06) Skin Laceration
- Skin Avulsion (80)
- **Amputation**
- (20) Burn
- (30) Crush
- Degloving (40)
- Injury NFS
- Trauma, other than mechanical (90)

Head - LOC

- (02) Length of LOC
- (04, 06, 08) Level of Consciousness
- (10) Concussion

- (02) Cervical (04) Thoracic
- (06) Lumbar

Vessels, Nerves, Organs. Bones, Joints are assigned consecutive two digit numbers beginning with 02

Level of Injury

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

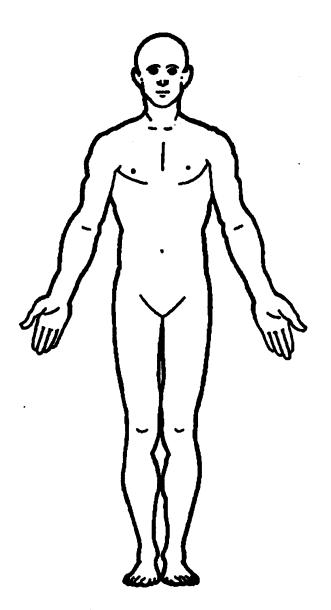
To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

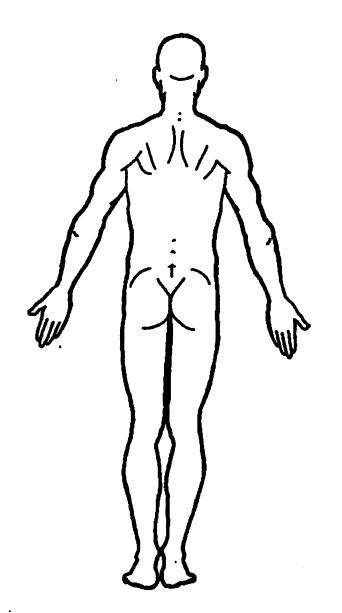
Abbreviated Injury Scale

- Minor injury
- Moderate injury
- Serious injury (3)
- (4)Severe injury
- (5) Critical injury
- Maximum (untreatable)
- (7)Injured, unknown severity

Aspect

- Right
- (2) Left Bilateral
- Central
- (5) Anterior
- (6) Posterior
- (7) Superior
- Inferior
- (9) Unknown
- Whole region





OFFICIAL INJURY DATA — SKELETAL INJURIES

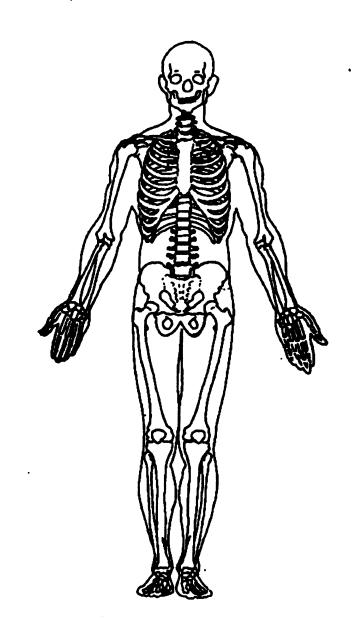
BEST AVAILABLE COPY

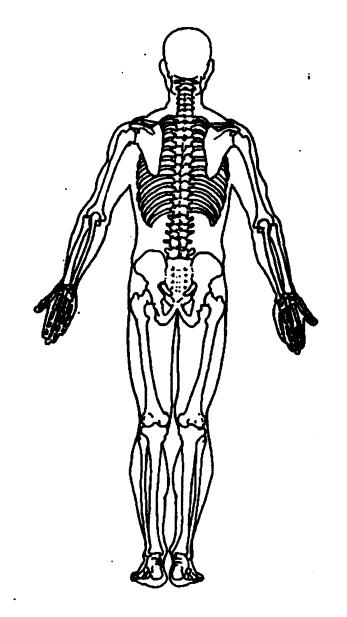
Restrained?

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

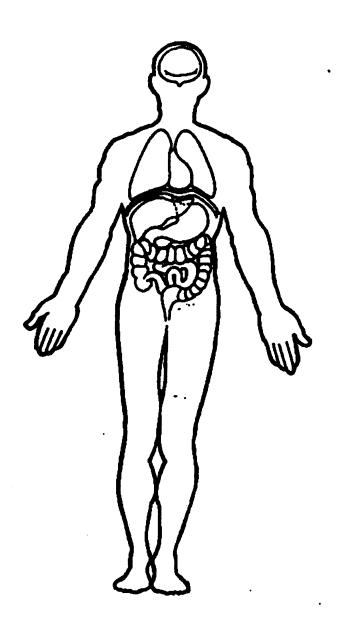
Blood Alcohol Level

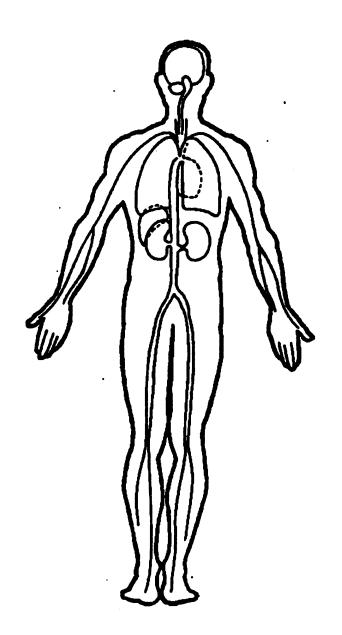
HCO,





Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)





ACCIDENT SUMMARY AIRBAG VEHICLE INSPECTION Accident Date: SUMMER / WEEKDAY 10. Date Vehicle Inspected: 1. 11. Reason Vehicle Not Inspected 2. Police Investigated (1) Yes (0) Not Required (1) Inspection Completed (2) No (2) Cannot be Located (3) Unknown (3) Repaired or Destroyed (5) Refusal or Impounded Agency: (7) Other: City: County 3. General Locality Y 12. Impact Data Obtained (1) Freeway, Limited Access (0) No Data Obtained (2) Urban (City) (1) CDC Only (3) Urban-Rural (mixed) (2) Crush Profile Only (4) Rural, Fields (3) Trajectory Data Only (4) CDC and Crush Profile 4. Configuration (First Harm) (5) CDC and Trajectory (0) Struck Object or Ped (6) Crush and Trajectory (1) Rear-End (7) CDC, Crush, and Trajectory (2) Head-On (3) Rear-to-Rear Basis of Delta-V 13. (4) Angle 8 (0) Not Computed (Unknown why) (5) Sideswipe-Same Direction (1) CRASH - Damage Only (6) Sideswipe-Opposite Dir. (7) Noncollision (2) CRASH - Damage + Traj (3) OLDMISS (8) Nonimpact Deployment (4) POLES (9) Unknown (5) Unknown Basis (6) One Vehicle Beyond Scope 5. Fire Involved (0) None (7) Collision Beyond Scope (8) Insufficient Data (1) Airbag Vehicle (2) Other Vehicle (3) Both Vehicles VEHICLE HISTORY (9) Unknown Prior Impacts for AB Vehicle? 14. a (1) Yes Vehicles Involved 6. (2) No (9) Unknown 7. Persons Involved 15. Has Any Prior Maintenance or Service Been Performed on System 8. **Injured Persons** (1) Yes (2) No (9) Unknown 9. Maximum AIS in Accident Describe:

21. Airbag Vehicle First Harmful Event AIRBAG VEHICLE (01) Fire or explosion NONE Fleet: JTBUZ3ØC8PØXXXXXX (02) Immersion VIN: (03) Gas Inhalation Mileage: UNKNOWN (04) Fell from vehicle (05) Injured in vehicle SYSTEM READINESS LAMP (06) Other noncollision (specify): (07) Overturn Pre-Impact Lamp Condition 16. 9 (08) Jackknife (1) Functioning/Proved Out **COLLISION WITH:** (2) Inoperative (09) Pedestrian (9) Unknown (10) Pedalcyclist (11) Railway train 17. Driver's Report of Pre-Impact (12) Animal Flashing (13) Motor vehicle in transport (00) No Flashing Reported (same roadway) (01) Continuous Flashing (14) Motor vehicle in transport (02)(other roadway) Number of Flashes: (15) Parked motor vehicle (11)(16) Other type nonmotorist (specify): (12) Constant Light (17) Thrown or falling object (19) Flashing, Unknown Number (18) Boulder (88) Not Applicable, System Removed COLLISION WITH FIXED OBJECT (99) Unknown (20) Building (21) Impact attenuator/crash cushion 18. Period of Pre-Impact Flashing (22) Bridge pier or abutment (0) No Flashing (23) Bridge parapet end (1) Same Day as Impact (24) Bridge rail (2) Prior Day (25) Guardrail (3) Prior Two Days (26) Concrete traffic barrier (4) Prior Week (27) Median barrier (5) Prior Month (28) Other longitudinal barrier (specify): (6) Over One Month (29) Highway/traffic sign post (9) Unknown (30) Overhead sign support (31) Luminaire/light support 19. Post-Impact Lamp Condition (32) Utility pole (1) Functioning/Proved Out (33) Other post, pole, or support (2) Inoperative (34) Culvert (9) Unknown (35) Curb (36) Ditch 20. Post-Impact Flashing (37) Embankment-earth (00) No Flashing Reported (38) Embankment-rock, stone, or concrete (01) Continuous Flashing (39) Fence (02)(40) Wall Number of Flashes: (41) Fire hydrant (11)(42) Shrubbery (12) Constant Light (43) Tree (19) Flashing, Unknown Number (44) Other fixed object (specify): (88) Not Applicable, System Removed (45) Pavement surface irregularity (99) Unknown (99) Unknown

3

FRONT BUMPER E.A. STATUS AIRBAG VEHICLE IMPACT SUMMARY 30. Left Vehicle Role 22. (0) Noncollision (1) Striking unit 31. Right (2) Struck unit (3) Both striking and struck (1) Normal (9) Unknown (2) Extended (3) Partial Compression 23. Manner of Leaving Scene 2 (4) Complete Compression (1) Driven (5) Not Applicable (2) Towed-due to damage (9) Unknown (3) Towed-not for damage (4) Towed-details unknown FIRST AIRBAG VEHICLE IMPACT: (5) Abandoned (9) Unknown Configuration 32. (0) Struck Object or Ped 24. Number of Impact Events ス (1) Rear-End (8) 8 or more (2) Head-On (9) Unknown (3) Rear-to-Rear (4) Angle 25. Rollover (5) Sideswipe-Same Direction (0) No rollover (6) Sideswipe-Opposite Dir. (1) First event (7) Noncollision (2) Subsequent event (8) Nonimpact Deployment (3) Yes, Unknown event (9) Unknown (9) Unknown CDC: UFZEWI 33. Override/Underride 26. \$ (0) No override/underride Object Contacted: 1983 OLDS, CUTLASS 34. (1) Override - 1st CDC (2) Override - Other CDC PRIMARY/DEPLOYMENT IMPACT: (3) Underride - 1st CDC (4) Underride - Other CDC **Event Number** 35. (9) Unknown AIRBAG VEHICLE DAMAGE Total Delta-V 36. CODES: (1) Yes, damaged (2) No damage (9) Unknown 37. Longitudinal Delta-V 27. Left Front Fender Damage 38. Configuration See 32 above for codes 28. Right Front Fender Damage 12 FZEW1 CDC: 39. Object Contacted: 1983 OLDS. CUTLASS 29. Center Top of Grille Damage 40.

AIRBAG SYSTEM DAMAGE

CODES: (1) Yes, Damaged

- (2) No, Intact
- (3) Not Applicable
- (9) Unknown

41.	Airbag	Module
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- 42. Left Front Sensor
- 43. Center Front Sensor
- 44. Right Front Sensor
- 45. Rear Cowl Sensor
- 46. Diagnostic Module
- 47. Wiring
- 48. Knee Diverter
- 49. Indication of disconnected or loose electrical connectors
- 50. Condition of Deployed Bag
 - (1) Bag intact
 - (2) Split or torn
 - (3) Cut by object in impact
 - (4) Cut after accident
 - (5) Other
 - (8) NA (not deployed)
 - (9) Unknown

DESCRIBE SYSTEM AND BAG DAMAGE:

NOTE DAMAGE AND CONTACT MARKS ON AIRBAG DIAGRAMS BELOW:

FRONT

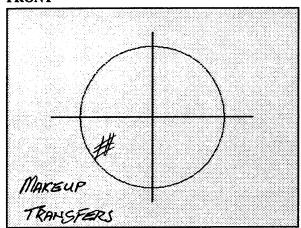
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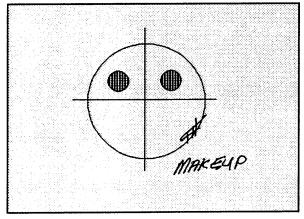
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BACK



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c 1	N. Lord Organization Valida		Head/Neck/Face	1.	45				
31.	Number of Occupants in Vehicle	2	Chest						
50	Number of Injured Degrees		Abdomen						
32.	Number of Injured Persons	y	Legs/Hips						
52	Maximum AIS in Airbag Vehicle	F12773	Other (Arms)						
<i>.</i>	(0) No Injury (1-6) AIS Severity (7) Injured, unknown severity	2	Driver Maximum	<i>l.</i> _	45				
	(9) Unknown		EJECTION						
DRIV	ER		Extent: /	NONE					
	Age: 57 Sex: FEMALE		Portal: ^	LONE	<u> </u>				
54.	Number of Driver Injuries	71	OTHER VEHICLE	:					
52. N 53. M (() () () () () () () () () () () () ()	Savera of Bost Luiner Date	F TOOKS	Maximum AIS						
33.	Source of Best Injury Data (0) Not injured (1) Autopsy (2) Hospital Medical Records	2	Prime/Deploy Impac Event Number	Prime/Deploy Impact w AB Vehicle Event Number					
	(2) Hospital Medical Records (3) Emergency Room only (4) Private physician, clinic		CDC: UNKN	KWB					
	(5) Lay Coroner Report (6) EMS Personnel		Total Delta V			NHK			
	(7) Interviewee		Make:	OLDSMO	BILE				
	(8) Police (9) Unknown		Model Yea	r: /983					
52.] 53.] DRIVER 54.]			Model:	CUTLAS	55				
			Body Type	: 2-2001	R				

NOTES:

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AIRBAG SUPPLEMENT

DRIVER BELT USAGE: (1) Used (2) Not Used (9) Unknown

Evidence: ALTHOUGH DIRECT IN SPECTION IN DICATES SEAT BELT USAGE SCRATCHING ON BELT TONGUE, OCCUPANT CONTACT TO THE SUNVIZOR AND WINDSHIELD HEADER INDICATES NO BELT USAGE

DRIVER POSTURE: Any comments Recorded (1) Yes, (2) No

Describe driver's posture and position on seat including specific comments on head, torso, buttocks, legs, and feet. Also note hand and arm position. Did driver brace before crash? Describe:

THE DRIVER REPORTED NORMAL UPRIGHT POSITION

DRIVER FOREIGN OBJECTS: Comments Recorded (1) Yes, (2) No

2

Was driver wearing contact lenses or eyeglasses? Or holding any foreign object at the time of the impact (packages on lap, pipe, food, bottle, cigarette, etc.)? Did any lenses, objects, or jewelery play any role?:

DRIVER COMMENTS: Comments Recorded (1) Yes, (2) No

Was the driver aware that the vehicle was equipped with a supplemental restraint system? Did driver offer any comments on smoke, noise, etc.? Did the driver comment on the airbag as a restraint system? Describe:

DRIVER & HUSBAND "THE BAGS SHOULD HAVE SOME FOAM ON THEM. THEY HIT HARD LIKE A PUNCHING RAG."

PASSENGER-AIRBAG CONTACT: (1) Yes, (2) No, (9) Unknown

Describe:

R/F OCCUPANT

AIRBAG SYSTEM DAMAGE

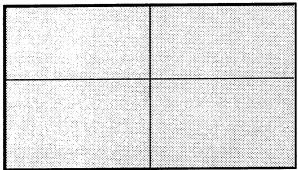
CODES: (1) Yes, Damaged

- (2) No, Intact
- (3) Not Applicable
- (9) Unknown
- 56. Airbag Module
- 57. Condition of Deployed Bag
 - (1) Bag intact
 - (2) Split or torn
 - (3) Cut by object in impact
 - (4) Cut after accident
 - (5) Other
 - (8) NA (not deployed)
 - (9) Unknown

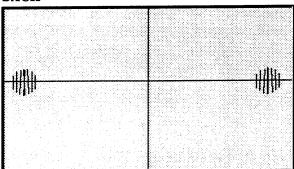
DESCRIBE SYSTEM AND BAG DAMAGE:

NOTE DAMAGE AND CONTACT MARKS ON AIRBAG DIAGRAMS BELOW:









	Age:	69			
	Sex: //	PALE			
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ANALYSIS OF RECORD

Written Byt ... Journ J. ... Cliant Co.: 3 Insured: Address: Date of Loss: Type of Loss: Day: Point Of Impact: 1 RIGHT FRONT Other: Inspect Field Location: --

93)LEXU 3C 400 2D LT TEAL 8-4.0L-FI Lic.#:

Prod. Date: Mileage:???

Automatic transmission Power windows Power passenger seat Tinted glass Air conditioning Cruise control Keyless entry Fm radio Search/seek 4 wheel disc brakes Recline/lounge seats California emissions

Repair

Facility:

Power steering Power locks Power antenna Body side moldings Rear defogger Telescopic wheel Theft deter/alarm Stereo Anti-lock brakes (4) Leather seats Alloy wheels

Power brakes Power driver seat Power mirrors Dual mirrors Tilt wheel Climate control Am radio Cassette Driver airbag Bucket seats Clear coat paint

30 Days to Repair

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NO.	REPR/ REPL	DAMAGE ANALY818	Q ΤΥ	PART COST	LBR HRS	PAINT HR3	MISC
,,	ain 1940 Mer was not also also 540 and 1	وا جود الله الله الله الله الله الله الله الل					
1		Front Bumper & Lamps					
2		O/H Front Bumper	1	0.00	4.0	0.0	
	51		1	291.57	Incl	3.0	
3	Repl	Cover	•				
4	Repl	Cover clip	1	1.20	0.0	0.0	
Ś	Repl	Energy absorber	1	58.24	Incl	0.0	
٠.	rebr		Ţ	•	P 1	Δ Δ	
රි	Repl	Impact bar	I	254.50	Incl	0.0	
7	•	Reinforcement	1	30.72	Incl	0.0	

Page: 1

93 LEXU 8C 400 2D LT TEAL 8-4.0L-FI

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NO.	REPR/ REPL		QTY	Part Cost	1150	1 Ima	MISC
		Retainer upper center Retainer upper clip (10) Retainer lower center no. 1 Retainer lower center no. 2 Rtnr lvr cntr n. 2 clp Retainer lower center no. 3 Retainer lower center no. 3 Retainer lower side Spoiler RT Retainer upper side Retainer upper center Retainer lower AC temp sensor AC temp sensor retainer RT Driving lamp assy RT Inner clip RT Cornering lamp assy to 5/93 RT Side marker lamp assy FRONT LAMPS LT Headlamp assy RT Headlamp assy Radiator assembly from 3/92			·	70, 100 BA BA TA AA 70	
8	Rapi	Retainer upper center	1	23.85	Incl	0.0	
3	Repl	Retainer upper side	1	11.44	Incl	0.0	
10	Rapl	Retainer upper clip (10)	1	1.08	0.0	0.0	
11	Repl	Retainer lower center no. 1	1	9.91	Incl	0.0	
12	Repl	Retainer lower center no. 2	1	18.32	Incl	0.0	
13.	Repl	Rtnr lwr cntr n. 2 clp	1	1.39	0.0	0.0	
.14	Repl	Retainer lover center no. 3	1	11.44	Incl	0.0	
15	Repl	Retainer lower side	1	6.14	Incl	0.0	
18	Repl	Spoiler	1	213.50	1.0	0.5	
17	Repl	RT Retainer upper side	i	11.29	0.0	0.0	
18	Rapl	Retainer upper center	1	38.31	0.0	0.0	
19	Repi	Retainer lower	1	14.71	0.0	0.0	
20	Repl	AC temp sensor	1	33.99	0.0	0.0	
21	Repl	AC temp sensor retainer	1	1.20	0.0	0.0	
22	Repl	RT Driving lamp assy	1	133.19	Incl	0.0	
23	Repl	RT Inner clip	1	0.52	0.0	0.0	
24	Repl	RT Cornering lamp assy to 5/93	3 1	45.81	Incl	0.0	
25	Repl	RT Side marker lamp assy	1	27.35	Incl	0.0	
2B ·		FRONT LAMPS					
27	Renl	I.T Headlamp assv	1	327.05	Incl	0.0	
28	Repl	RT Headlann masv	1	323.97	Incl	0.0	
29	Reni	Aim headlamps	1	0.00	0.5	0.0	
30	100 M	COOLING					
31 -		Paul Rad Runnort As Assembly	1	0.00	8.0	0.0	
30*	Dani	Rinnant seev	1	0.00	Incl	Incl	
733 b	Pani	Padiator assaubly from 3/92	i	583.17	Irici	0.0	
34	Deal	Repl Rad Support As Assembly Support assy Radiator assembly from 3/92 LT Rdtr assmbly apprt uppr RT Rdtr assmbly apprt uppr Rdtr assmbly apprt uppr Rdtr assmbly apprt lwr Upper tie bar Faint Rad Support Complete Lower tie bar RT Side panel	1	10.27	0.0	0.0	
35	Davi Mobi	DT Dake assembly some unne	1	10.48	0.0	0.0	
.)_) .)_)	ge~;	Bype seemply women from	1	8.49	0.0	0.0	
30	nepi 1 den	Made his pass	1	191.18	Incl	Incl	
32 37	wabr	Daint Dad Gundant Canalata	1	0.00	0.0	1.5	
30 *	Boot	Laine was achbore comprare	1	128 12	Int	Incl	
J9J∓ 40	Repl.	·DT Gida wash!	1	74 15	Incl	0.0	
40	repi.	Cover plate	î	31.36	0.0	0.0	
4 L	ಚಡೆಗಿ ಕ	COART Brace	1	105.33	0.0	0.0	,
42	Repl	Upper air deflector	-	0.00	2.0	0.0	
43	- ,	Repl Motor Fan & Shroud	1	278.87	Incl	0.0	
44*	Repl	Hydraulic fan motor	1	95.50	Incl	0.0	
45*	_	Hydraulic fan motor fan blade	1				
48*	Repl	Hydraulic fan motor shroud	1	70.98	Incl	0.0	
47		AIR COND & HEATER		200 25	2 5	A A M	
48*	Ropi	Condenser	i	393.38	3.7	0.0 M	
49*	Repl	AC service	1	0.00	1.4		
50*		REPLACE FREON	1	0.00	0.0	0.0 T	24.00

Page: 2

93 LEXU SC 400 2D LT TEAL 8-4.0L-FI

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NO.	REPR/ REPL	DAMAGE ANALYSIS	QTY			HRS	MISC
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51*	Repl	Hose discharge Hose suction	i 1	88.02			
	Repl	Hose suction	_		£11C.L	0.0	
53		HOOD Hood Add for Underside Insulator	4	417.27	15	4 n	
54	Rapi	Hood	4	0.00		2.0	
55		Add for Underside		199.65		0.0	
58	Repl	Insulator	4	29.03	3 0	0.0	
.57	Repl	Insulator retainer Insulator clip (13) Lock assembly RT Hinge	4	1 34	ກຸກ	0.8	
58	Repl	Insulator clip (13)	1	30 35	0.5	0.0	
59	Repl	Lock assembly	1	28.24	0.3	0.3	
	Repl	RT Hinge		20.74	4,5	7. 4	
81 ~		FENDER & LAMPS	•	282.77	2 4	3.0	
82	Repl	RT Fender	•	0.00	0.0	-0.4	
83		Overlap Major Adjacent Fanet	†	0.00	0.0	0.5	
84		Add for Edging	1	0.00	÷0.4	0.0	
65		Deduct for Body Overlap	1	9.77 98.05	ሳ ሜ	0.0	
88	Repl	RT Mud guard	.i.	70.23 70.23	0.5	1 5	
87*	Repl	RT Fender Overlap Major Adjacent Fanel Add for Edging Deduct for Body Overlap RT Mud guard RT Apron assembly	, ,	0.00	2.0	0.0	
00	·	PI Leuder, wer	7	. 0.00	2.0	4.0	
69 ´		FRAME		ስ ላለ	10.0	1 %	
	Rapr	RT Side rail assembly AFT/PULL	ند س	0.00	300	0.0 M	
71*		R&I NECC.PARTS FOR ACCESS					
72		WHEELS & FRONT SUSPENSION RT/Front Wheel, 16 X 7 O/H Front Suspension Rt		607 60	ηз	0 0	
73⊁	Repl	RT/Front Wheel, 18 X /	1	097.00	7.3	0 to M	
		O/H Front Suspension Kt	1	0.00	Incl	0.0	
75*	Repl	RT O/H Suspension Rt RT O/H Suspension RT Steering knuckle RT Control arm upper	·	161 47	Incl		
76 »	Repl	RT Steering knuckle		101.47	Incl		
77*	Repl	RT Control arm upper		5 70	10.0		
78	rc=O1	WI COULD OF STIM SUPER SOLE	ŗ	7.70 35 Ame	inal	0.0	
79 *	Repl	RT Control arm lower	1	40.00	Two	0.0	
80 *	Ropl	RT Bhock absorber assy	7	42.02	TUCT	0.0 X_	85.00
81*	Repl	RT Shock absorber assy Wheel alignment front wheel RT Shlash shield	1	V.UU	Incl	0.0	
82*	Repl.	W. Obicon ourse	Ţ	25.58	Trici	5.0	•
83	•	STEERING GEAR	,	89.11	1.0	0.0 M	
84*	Repl	RT Tie rod outer end	1	09.11	1.0	V. V	
35		COWL & WINDSHIELD	•	120.61	3 0	1.0	
28*	Repl	Section RT Hinge pillar outer	1		3.0		
87*	Repr	RT Reinforcement lower	1	45.93	0.5		
38	Repl	RT Reveal mouldings side	<u>.</u>	0.00	0.5	0.0	
39 ⊁	Rapr	Rear view mirror ADJUST	Ţ	7.40	فافتطساها يمصمهم	V . V	
90		RESTRAINT SYSTEMS	1	1249.62	0.5	0.0 M	
91*	Repl	Air bag module driver side	1	1858.14	1.0		
32 *	Repl	Air bag module passenger side	1	193.34	1.3		
93*	Repl	LT Sensor	7	1 3 A - JA		414 11	

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ο.	REPR/	DAMAGE ANALYSIS	QTY	PART COST	HRS	HRS	MISC
		ल्द् का का भा पत्र पत्र पत्र व्यां व्यां को		193.34	1.3	0.0 M	200
94*	lgen	RT Sensor	1. 1	0.00	1.0	0.0 M	
95 *		RT densor Diagnosis control DIAGNO8IS	• ,	- Arra			
98		FRONT DOOR	t	0.00	1.3	0.0	
97		RT Front door R&I	1	0.00 266.64 0.00	0.4		
98	Repl	RT Hinge assembly	1	0.00	1.0		
99 *	-		1	0.00	1.0	0.0	
00*		BLEND RT DOOR	1		1.0	0.0	
01*	•	BLEND LT DOOR	1		0.5	0.0	
υ2*		COVER CAR	1	0.00	2.0	0.0	
03*		COVER CAR COLOR SAND AND POLISH SET-UP UNIBODY PULL AND SQUARE SIDESWAY PULL AND SQUARE MAJOR MASH UNDERCOAT AND SEAL *ADDITIOANL PARTS AND LABOR* *AFTER TEAR DOWN*	1	0.00	3.0	0.0 F	
04*		BET-UP UNIBODY	1	0.00	3.0	0.0 F	
05*		PULL AND EQUARE SIDESWAY	1	0.00	/ <u>/ //</u>	0.0	
.05×	•	Pull and square major mash	L	0.00.	~~~~	0.0 T	10,00
07*	•	UNDERCOAT AND SEAL	1	0.00		V.V	
.08 #		*ADDITIOANL PARTS AND LABOR*	4	0.00	nn	n . n	
109*		*AFTER TEAR DOWN*	1	0.00	5.0	4.4	
10		eng i ne		0 00	14.0	0.0 M	
11*	•	R&I Engine assy	1 1	110.94	14.0	0.0 M	
	time i	1 to but a a a a a a a a a a a a a a a a a a a	4	20 A C	1 0	a a M	
1139	Repl	Mount rear	1	33.78 33.78	1.4	0.0 11	
			1	33,78	T-s-s-1	0.0	
15*	Repl	RT Bracket front	1	33.78	Incl	4.0	
18		COWL & WINDSHIELD		4 44	0.0	1 ^	
175	Xepr	RT Bracket front COWL & WINDSHIELD Cowl top panel	1	0.00	2.0	1.4	
148	76 4 2 4 7	ROOF & BACK GLASS				0.0	
110		ROOF & BACK GLASS R&I Glass assembly Roof panel w/moon roof Overlap Major Adjacent Panel FRAME	1	0.00	1.0		
704	Renr	Roof panel w/moon roof	1	0.00	2.0		
101	rem lar	Overlap Major Adjacent Panel	1	0.00	0.0	-0.4	
122					a 17	1 62 57	
123*	Renl		1	778.98	3,5	1,5 1	
124	reals :	ENGINE					
125 <i>*</i>	Panl-	Air intake assy	i	293.17			
122*	Repl'	Inlet duct	1	88.77	0.5	0.0 M	
126*	vebr	FRAME					
127	Repl	Engine splash shield front	1	45.10		0.0	
123	Ropi	RT Engine splash shield side	1	31.86		0.0	
129	Repl		1	124.33	0,5	0.0	
130	wan r	WHEELS & FRONT SUSPENSION					
131	ا مــــــــــــــــــــــــــــــــــــ	ne ne Grande de	1	839.42			
132*	Rapl	LT R&I Suspension	1	0.00		0.0 M	
133*		CLEAR COAT	I	0.00	0.0	2.5	
134*		UBBOTAL CUTTA				~~~~~	

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OPEN: ADDITIONAL RT FRONT SUSPENSION.

Parts Labor Paint Paint/Materials Frame Mech Sublet/Misc	27.3 15.5	hrs	\$	28.00 28.00 40.00 55.00	/hr /hr	13402.85 1912.40 764.40 375.00 620.00 2535.50 119.00
SUBTOTAL Tax on \$ 13811.6	35 at	8.2	50	0%	\$	19728.95
TOTAL COST OF RE	PAIRS	3			\$	20868.41
NET COST OF REPA	IRS	· · · · · · · ·			\$	20888,41

THIS IS NOT AN AUTHORIZATION FOR REPAIR. THIS IS AN APPRAISAL OF DAMAGES ONLY. NO APPRAISER OR AUDUSTER HAS AUTHORITY TO AUTHORIZE REPAIRS, AUTHORIZATION TO REPAIR AND GUARANTEE OF PAYMENT CAN ONLYBE MADE BY OWNER. SPECIFICATIONS AND INTENDS THAT ALL REPAIRS AND/OR REPLACEMENTS LISTED HEREON BE MADE IN STRICT A CORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

REINSPECTION AND WILL NOT BE HONORED UNLESS PRIOR APPROVAL GIVEN.

Estimate based on MOTOR CRASH ESTIMATING GUIDE, Non-asterisk(*) items are derived from the Guide Company Database Database Database Double asterisk(**) items indicate part supplied by a supplier other than the original equipment manufacturer.

EZEst - A product of CCC Information Services Inc.

E	•	Remit To:			ADMISSION R
		en e	· '3 '		
. ACCOUNT NO. ADMIS	SSION DATE/TIME			•	•
NU PATIENT NAME AND ADDRESS	<u> </u>	F.C. DATE OF BIRTH AGE	SEX RACE MS SERVICE STA	TION ROOM NO. JACK	
PATIENT NAME AND ADDRESS		SOC-SEC-NO	F 1 m men	ACC	PAT TYPE INIT UNIT
			PATIENT EMPLOYER	3	ACU PAB
GUARANTOR NAME AND ADDRESS	The second second second	TELEPHONE NO			l l
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ACUTE FILATERAL F	IVELLE	Lacon			
ADMITTING PHYSICIAN		YES	DATEMINE	ADM TYPE/SOURCE	Time
ATTENDING PHYSICIAN	PREVIOUS ADMIT NAME	YES HOTOR VEHICI	E ACCIDENT	1 7	ARRIVAL MODE
REFERRING PHYSICIAN	ADVANCE DIRECTIVE . FAMILY PHYSICIAN		SMK/PUB/VAL FA	T. CLA ROOM PREF	CHURCH
	PHYSICIAN	117.#:			Ing Water
FINAL DIAGNOSIS:		1147			Ins Notes? NO ROJ: Yes
SECONDARY DX:					
					CODE NO.
					1921.3
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COMPLICATIONS:					
ROCEDURES:					j
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AUSE OF DEATH:					1
NDITION ON DISCHARGE	:				1.
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Emergency Department Patient Record

CHIEF COMPLAINT: STATUS-POST MOTOR VEHICLE ACCIDENT WITH EYE PAIN.

HISTORY OF PRESENT ILLNESS: This patient is a 57-year-old Black female who was the driver of a motor vehicle accident with shoulder harness and seatbelt in place. The patient was travelling around a corner in the process of making a right turn when she ran into another car. Her vehicle's airbag inflated causing the patient to lose vision. The patient did not lose consciousness. The patient was brought into the emergency department in cervical spine precautions complaining in of bilateral eye pain and inability to see. The patient also notes that she had hard contact lenses in place at the time of the injury. The patient denies any pain in her back at this time. She is complaining of pain in her neck. She also denies pain in her chest, abdomen, or extremities. She is complaining of swelling in her left upper lip. The patient denies any facial numbness or weakness.

PAST MEDICAL HISTORY: The patient denies any other medical problems.

MEDICATIONS: NONE. ALLERGIES: IODINE.

PHYSICAL EXAM:

GENERAL: The patient is well-developed, well-nourished, Black female who is lying supine in full, spinal precautions.

SKIN: Warm and dry.

HEENT: Head - Normocephalic, atraumatic without palpable deformities. Eyes - The patient has bilateral edema of the eyes with abrasions of the lower lids. Glass and plastic are visible in her lids and lashes. Examination of the left eye - The patient had hand motion vision at approximately 12-inches. Her cornea is cloudy with blood visible posterior to the cornea and the pupil is obscured by blood in the anterior chamber. The pupil appears indistinctly but does appear to be approximately 4-mm. and round. The funduscopic was not able to be accomplished secondary to the increased density of the anterior chamber. The patient had some sloughing across the anterior cornea with broken pieces of hard contact in the conjunctival sac above the left upper lid. The patient also has chemosis of the conjunctivae with a left lateral subconjunctival hemorrhage. The lids and lashes appear intact. There does not appear to be any rupture of the globe. Examination of the right eye - The patient has count finger vision at 12-inches. Again, she has broken pieces of plastic and glass in the lids and lashes, within the conjunctival sac, and underneath the right lid. The patient had an asymmetric eccentric pupil with the pupil indistinctly seen again secondary to increased density behind the cornea. The patient's pupil appears elliptocal and displaced upward with a lenticular shaped disruption of the iris at between 7 and 8 o'clock. There is no obvious site of penetration of the globe itself. The patient, again, has chemosis of the conjunctivae with a right lateral subconjunctival hemorrhage and edema. The funduscopic examination was not done secondary to inability to visualize past the increased density behind the cornea. Ears - Canals patent. Tympanic membranes are clear. No Battle's sign. Nose/Face - Atraumatic. There is no septal hematoma. Facial bones are nontender to palpation and stable with attempts at manipulation. Mouth/Throat - The teeth are intact. The patient has soft tissue

swelling and edema with ecchymosis of the mucosal surface of the left upper lip but no suturable laceration. Neck - The patient had generalized soreness but no localized tenderness. The trachea was midline. Carotids were equal. The range of motion was tested after x-rays were taken and this was normal.

CHEST: Nontender without crepitus or deformity. Excursions are normal. Lungs with good tidal volume. There are normal breath sounds bilaterally.

HEART: Regular rate and rhythm. Tones are normal. No murmur, rub or gallop is heard. All peripheral pulses are intact and equal.

ABDOMEN: Nondistended without abrasions or ecchymoses. No tenderness. No guarding or rebound. No masses. Bowel sounds are active.

PELVIS: Nontender to palpation and stable to compression.

EXTREMITIES: Full range of motion without pain. No ecchymoses, cyanosis, clubbing or edema. Distal motor, neurovascular supply intact.

NEUROLOGIC: Alert and oriented x 4. Glascow Coma Scale 4-6-5. Cranial nerves II - XII intact. Motor and sensory exam is non-focal. Reflexes are symmetric. No pathological reflexes elicited.

- EMERGENCY DEPARTMENT COURSE: The patient had x-rays of her cervical spine taken this was a limited series. This was done secondary to the mechanism of injury. However, the patient's x-rays were negative and the patient is complaining of generalized discomfort only. On examination of her eyes, the patient had Ophthaine drops instilled into the eyes to facilitate the eye examination. Irrigation with sterile saline was done to remove debris, dirt, and plastic pieces of her contact lens. The patient had lid inversions done bilaterally to further remove pieces of broken plastic contact lens. This patient appears to have a bilateral hyphema with tear of the iris at
 - 7 o'clock in the right eye. These findings were discussed with the patient the ophthalmologist on-call who agrees that the patient should be admitted for bedrest, patching bilaterally and IV-sedation and pain relief. These findings were discussed with the patient had her husband. The patient's own personal ophthalmologist was consulted. He does not have admitting privileges, here, at the requested that the patient be taken care of by the Staff on-call ophthalmologist and he will follow-up the patient after discharge.

ASSESSMENT:

- 1). ACUTE BILATERAL HYPHEMA.
- 2). ACUTE TEAR OF THE RIGHT IRIS OF THE EYE.

DISPOSITION: Plan - The patient will be admitted to the 3-Bauer to the patient will have her eyes patched bilaterally. The head of the bed will be placed at 30-degrees.

Emergency Department Patient Record

Dictated: Transcribed:		•	^1	7		
PMD: Document ID:	,vD.		· - •	· /	•	

CONSULTATION REPORT DATE OF ADMISSION: DATE OF CONSULT:

CONSULTING PHYSICIAN: REFERRING PHYSICIAN:

HISTORY: I was kindly asked by

to help with the care of this 57 year old black female who was involved in a motor vehicle accident on (... The patient was rendered blind when she was struck in the face by an expanding air bag. The patient has remained blind since her I was asked by to evaluate this patient for accident. a sleep disorder. The patient states that she has had intermittent problems off and on with difficulty maintaining her Typically she is able to fall asleep within a few minutes but then finds herself waking up frequently at-night. She does not experience any hypneic jerks, snoring, restless leg or limb movement activity and does not appreciate any other sleep disturbance that accounts for her awakening. She will typically wake up feeling fatigued and has some difficulty getting through the day. She does not experience napping or sleeping during the day. The patient relates that this problem has clearly been stress related in the past, usually accompanying problems in her family life and in her business. The patient has been treated for depression which accompanied her menopause. She has been on estrogen and progesterone replacement along with antidpressant therapy which included Prozac, Paxol and Zoloft. Because of insomnia, she also was given Ativan which seemed to leave her drugged the following She has not complained of night sweats or hot flashes as part of her sleep disturbance. Her most recent bout of insomnia has occurred over the last two months. She will occasionally have trouble falling asleep but most of the time she is asleep within 10-15 minutes, on a bad night it will take up to half an hour or more. She wakes up 3-4 x night and on occasion will get up and read. She cannot recall specifically waking through problems though she does recall the current projects at work and in her family life that are on her mind. She goes to bed around 11 o'clock and wakes up around 5 in the morning. On the weekends she has a similar bedtime but wakes up an hour or two She feels that she has to cram a full day into every hour to get anything done. At night upon retiring she does not experience thoughts racing through her mind to prevent her from sleeping. Currently the patient feels that her depression has

CONTINUED:

PATIENT#:
ACCOUNT#:
PT. NAME:
ATTND MD:

CONSULTATION REPORT

PAGE TWO

been under fair control despite the trauma of the last few days. The patient has used Prozac, Paxol and Zoloft as mentioned in addition to Ativan. Other than these medications she has been on no sleeping medications. She does not smoke cigarettes and drinks alcohol 3-4 x week. She consumes two cups of coffee in the morning and 3-4 x week will have an afternoon tea. She does not drink any caffeinated products in the late afternoon or evening and she does not street drugs. Her prescribed medications include

PAST MEDICAL HISTORY: allergy to iodine.

Unremarkable. She has an

SOCIAL HISTORY: her husband is in She is married, has children, business.

REVIEW OF SYSTEMS: She has no symptomatology to suggest esophageal reflux, no heartburn or indigestion. She experiences some coughing and postnasal drip which sometimes will awaken her at night.

She is a pleasant middle-aged PHYSICAL EXAMINATION: black female in no distress. Pupils are notable for bilateral hyphema. The left pupil is fixed, and nonreactive. The right pupil shows an irregular contour. The iris appears to be separated laterally from the sclera. There are multiple petechiae over her face along with some abrasions in the maxillofacial area. Oropharynx shows good dentition. palate is somewhat redundant. No tonsillar hypertrophy noted. Neck supple, the thyroid is not enlarged, there is no lymphadenopathy. Breast exam deferred. Chest showed clear breath sounds bilaterally. Cardiac exam, there is a I-II/VI systolic murmur at the left lower sternal border. soft and nontender with active bowel sounds, no hepatosplenomegaly or masses. Neurologic, the patient is alert and oriented. Neuro function is normal. She does not appear depressed.

ASSESSMENT:

is a 57 year old black with a long standing intermittent difficulty with maintaining sleep (insomnia) who is now feeling with a superimposed acute problem arising from her catastrophic motor vehicle accident that has left her blind.

CONTINUED:

PATIENT#: ACCOUNT#: PT. NAME: ATTND MD:

CONSULTATION REPORT

PAGE THREE

This is accompanied by a change in her daily routine and activity along with a foreign environment. The pain is associated with her injury and the psychological impact of her acute visual loss. Her sleep distress may also be complicated by current drug effects which include Prednisone, codeine and benzodiazepines. Her long-standing insomnia seems to be related to times of considerable stress in her life and work. She has been treated for depression with serratonin reactor inhibitor antidepressants but has found them to be activating and cause insomnia in of themselves. Interestingly her chronic problem does not seem to be one of initiating sleep but rather in maintaining sleep. This is a feature that is commonly found with patients who have depression.

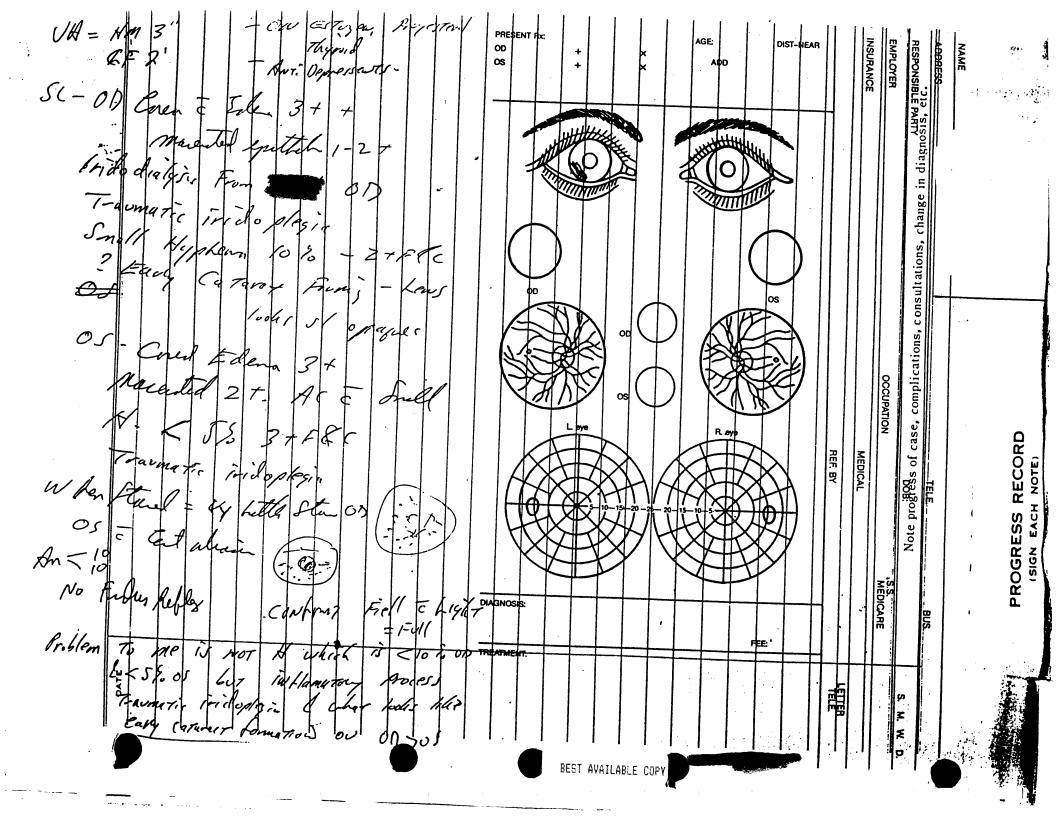
RECOMMENDATIONS: I would suggest breaking down her complaints into acute and chronic phases. She currently feels her chronic depression is under control, especially in light of her recent trauma. I would try to maintain some similance of a normal sleep/wake cycle, sleep hygiene with proper timing of her normal sleep/wake cycle, avoidance of daytime napping and early morning light exposure will all be beneficial. I would like her to consider using a short acting benzodiazepine at bedtime such as Restoril with a repeat dose in 30 minutes if she is not asleep. This is only to reinforce sleep in a setting of this acute disruptive set of circumstances. She may continue this for a few days at home but then should be weaned off that. For the treatment of her more chronic phase would consider an antidepressant such as Trazadone or Desyrel which has a sepsis effect and gives a more sleep profile that more closely resembles a normal sleep architecture. It is an antidepressant and might help smooth out some of her chronic insomnia, especially if it is related to depression. Thyroid panel would be useful to make sure that she is not hyperthyroid as this can lead to insomnia so as not to mix multiple benzodiazepines with different half lives. I thiink I would like to eliminate the Valium and Halcion that she is currently getting.

I would like to thank the care of this patient.

for asking me to participate in

PATIENT#: ACCOUNT#: PT. NAME:

ATTND MD: CONSULTATION REPORT



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DAILY LABORATORY REPORTS INPATIENT DISCHARGE - MEDICAL

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H = High Abnormal

L = Low Abnormal

C = Critical Result

Director of Laboratories Discharge Date: Sex: F DOB:

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(END OF REPORT)

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RE:

DATE OF CONSULT:

Thank you for referring your patient for retinal consultation.

CHIEF COMPLAINT: Poor vision in both eyes.

OCULAR HISTORY: The patient was involved in an auto accident on a car was rear-ended and the air bag system of her car was activated. She was wearing contact lenses at the time and when she was examined by you these lenses were broken in both eyes and there appeared to be non-full thickness lacerations of the cornea in both eyes accompanied by hyphema. There has been a difficult posterior view of the eye since that time although you have seen some areas of edema. She is sent for evaluation of her retinal findings. Her previous history was only of myopia with astigmatism with no past history of glaucoma or previous trauma.

MEDICAL HISTORY: A complete medical history is on file. Medical history is significant for past hysterectomy. No diabetes or high blood pressure.

ALLERGIES: Iodine dye for x-ray evaluation.

FAMILY HISTORY: Non-contributory.

VISUAL ACUITY: 20/200 with pinhole right eye, 20/400 with pinhole left eye.

VISUAL FIELD: Contracted peripherally with the left eye having more contraction than the right.

inferior temporally in the right eye. Vitreous is seen through the dialysis to the peripheral area of the cornea with some pigment dispersion on it. The lens appears in normal position without spontaneous movement. It has a mild nuclear sclerotic appearance. The left conjunctiva is the same. The cornea has a steamy, slightly hazy look as does the anterior chamber. A significant flare is present in the eye with 1+ pigment and cells. Again, a few mild KP are seen. No dialysis is seen of the iris in the left eye. The lens again has an early nuclear sclerotic appearance.

APPLANATION PRESSURE: 15 right eye, 48 left eye.

RETINA: Indirect ophthalmoscopy with scleral depression of the right eye reveals that the retina is attached with no visible peripheral retinal tear or dialysis. The optic nerve appears to have about a 0.3 cup and is pink and the macular region appears undamaged. No edema is evident today but there is a posterior vitreous detachment and some circulating blood that may have just drifted posteriorly from the anterior iris damage. In the left eye I have a bare view through the hazy media and the retina appears attached. No detailed view is evident.

IMPRESSION: 1. TRAUMATIC IRIDODIALYSIS, RIGHT EYE.

- 2. VITREOUS HEMORRHAGE, RIGHT EYE.
- 3. POSTERIOR VITREOUS DETACHMENT, RIGHT EYE.
- 4. SECONDARY GLAUCOMA, LEFT EYE, TRAUMATIC.

COMMENT: I performed an ultrasound examination because there was not an adequate view of the left eye and this study revealed scattered intraretinal hemorrhage and/or vitreous opacification with no retinal detachment. The posterior pole region appears unremarkable ultrasonically.

I placed the patient on Timoptic 1/2 percent twice a day in the left eye only and had her start Neptazane 25 mg. b.i.d. and told her you may wish to increase that medication if the pressure is not low enough and she has tolerated it well. I made arrangements to see her again in 10 days unless there is a decrease in function of either eye and otherwise I am hopeful that over time she will clear the media in both eyes and that there is no retinal complication. It is interesting that she does have the history of cataract formation when you saw her immediately after the blunt trauma and that this in fact has improved with either time or the steroid management. I will see her again in 10 days.

Thank you very much for letting me evaluate your patient.

Sincerely,

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CASE RECORD

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RE:

Your patient returns with a history of slightly improved vision since her last examination following the traumatic auto accident with air bag activation resulting in bilateral ocular hemorrhages, iridodialysis of the right eye and elevated pressure of the left eye. Her pressure has responded well to your treatment.

VISUAL ACUITY: 20/200 both eyes.

SLIT LAMP EXAMINATION: There is a prominent inferior temporal dialysis of the right eye but the vitreous does not appear to be filling the anterior chamber in any greater degree than was previously seen. The lens has some opacification. The left eye is quiet with, again, some minimal opacification of the lens that appears nuclear sclerotic.

APPLANATION PRESSURE: 8/18

RETINA: I have a clear view today of the retina and with indirect ophthalmoscopy there is no retinal detachment and no apparent choroidal rupture in the posterior pole. She has persistent vitreous hemorrhage which has settled primarily inferiorly in both eyes and examination of the far retinal periphery is still limited with scleral depression in those regions.

COMMENT: I think she is doing well considering the damage that occurred and will see her again for retinal evaluation in one month at which time I can hopefully see additional detail. Thus far it appears that time alone will allow for clearing of the hemorrhage in both eyes and a hopeful return to good visual function. I will contact you again after the next examination.

Sincerely,

PHYSICIAN ACCESS FACE SHEET - PATIENT DEMOGRAPHICS

		UNIT # : ACCOUNT # : PHONE (H)	
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Thanks for choosing us for for eye care needs. The answeres to the following questions give us important information that will assist us greatly in our care for you, so please take the time to read the questions carefully, and give complete and truthful answeres. Use the back of the page if necessary. **的**是是 Name: MALE FEMALE The doctor can address me as:

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I would like the doctor to: EXImine
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and it started (when?):
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BEST AVAILABLE COPY

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I'll check mark any symptoms that I have: (Presently)	These symptoms have effected me: (In the past) Yes No Blurred vision spells Decreased vision spells Fluctuating vision Floaters in my vision Flashing lights Jagged lines in vision Eye surgery Eye injury Serious eye infection Spasm of eye lids Retraction of eye lids Lazy eye lids Abnormal pupil Corneal disease Glaucoma Cataract Retinal disorder Eye tumor In or out turning of eye Did your occupation adversely effect your eyes?			
Allergies to médicines including eye drops Occupational effect on eyes				
(For those who wear glasses or contact lenses) I am satisfied with my glasses/contact lens prescription: Yes No (For those who don't wear glasses or contact lenses) I am satisfied with my uncorrected vision: Yes NO				

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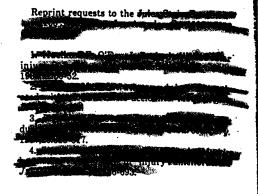
Severe Ocular Trauma From a Driver's-Side Air Bag

Motor vehicle accidents are a common cause of ocular trauma in the United States. Most ocular injuries occur in patients not wearing a lap-shoulder seat belt.1.2 The air bag was recently introduced as a method to reduce the consequences of frontal and front angle collisions, which account for more than 50% of motor vehicle accidents involving serious injuries and fatalities.' Air bags have been estimated to reduce the incidence of brain injury in motor vehicle accidents by as much as 25%.' Inflation of an air bag may also reduce the frequency and severity of ocular trauma. We describe herein a patient who sustained significant ocular trauma from an inflated air bag during a motor vehicle accident.

Report of a Case.—A 26-year-old man driving 35 miles per hour and restrained by a three-point lap-shoulder belt crashed head-on into a tree. The driver's-side air bag inflated during the collision. The patient sustained facial abrasions on the left side and complained of decreased visual acuity and a floater in the visual field of his left eye. Best corrected visual acuity was 20/15 OD and 20/50 OS. Examination results of the right eye were normal. Slitlamp examination of the left eye revealed ecchymosis and edema of both upper and lower lids, resulting in mechanical ptosis. Moderate conjunctival hyperemia was

present with an inferotemporal subconjunctival hemorrhage. A microscopic hyphema was also present and a partial Vossius ring was found on the anterior lens capsule. Intraocular pressure was 14 mm Hg OD and 16 mm Hg OS. Dilated funduscopic examination of the left eye revealed vitreous and subretinal hemorrhages and retinal folds (Figure). Ultrasonography revealed a dense opacification in the posterior temporal globe and blood in Cloquet's canal. The results of coagulation studies and hemoglobin electrophoresis were normal. The patient was followed up for 6 months. The vitreous and subretinal hemorrhages resolved, and visual acuity improved to 20/

Comment.—To the best of our knowledge, this is the first reported case of severe ocular trauma from a motor vehicle accident in a patient protected by a driver's-side air bag. There is no way of knowing whether the air bag was protective in this case of ocular injury or if it forced the patient's head laterally against the driver's side window; however, several studies have shown a reduction in morbidity and mortality from driver's-side air bags.3.4 Our case demonstrates that severe ocular injury can occur during a low-speed frontal automobile crash in the presence of a fastened three-point lap-shoulder belt and deployed air bag.

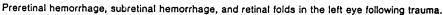


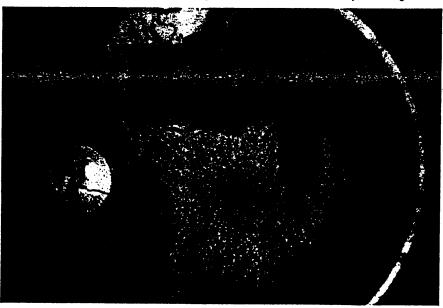
Radial Keratoneuritis in Pseudomonas Keratitis

Radial keratoneuritis, the apparent presence of infiltrate along corneal nerves in suppurative keratitis, has been described as an early sign of Acanthamoeba keratitis and is commonly thought to be pathognomonic for this infection. We describe herein a patient with Pseudomonas aeruginosa ulcerative keratitis in which radial keratoneuritis was a presenting sign.

Report of a Case.—A 22-year-old woman who wore extended-wear soft contact lenses first experienced discomfort in her left eye 5 to 7 days before presentation. At that time, she discontinued contact lens wear. Two days before presentation, she noted increasing redness, pain, and photophobia in the left eye. Her ophthalmologist noted radial keratoneuritis, and she was referred to the

for consideration of propamidine isoethinate (Brolene) therapy. On evaluation, she reported 5 years of extended-wear soft contact lens use and had used the current pair for 1 year. Wearing time was 1 week, with weekly cleaning and disinfection. She denied using home-mixed saline, and claimed no history of swimming, hot tub use, or ocular trauma with organic material. On initial evaluation at the Eye Center, she was found to have a peripheral corneal ulcer of 2.75 × 2.25 mm with underlying stromal infiltration, and a linear midstromal infiltrate extending 2 mm from the peripheral edge of the ulcer to the limbus (Figure). This infiltrate appeared to extend along a radial corneal nerve and was believed to represent an area of radial keratoneuritis. Initial Gram's stains of corneal scrapings taken from the area of ulceration revealed polymorphonuclear leukocytes and gram-negative rods. Scrapings of the ulcer bed and surrounding tissue revealed no amoebae when stained with periodic acid-Schiff, calcofluor white, and lectinase. The patient was administered hourly drops of





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Obviously, these figures are still significantly lower than those from the mid-1980s. Discussing these trends in the MD, stated: "Our statistics for the past eight ophthalmology matches show that a decline in the number of registrants since the mid-80's seems to have stopped with some signs of a reversal." The good news is that the match rate for US seniors has risen from 55% in 1985 to 80% in 1992. Therefore, while the match rate for US seniors for ophthalmology resident positions was higher than in any year since 1989," this recent change does not yet overturn the downward trend of the last 8 years.

Furthermore, I would like to point out that, in the cited article, I attributed this downward trend not only to RBRVS, but also to the "negativism that's been cast about" regarding ophthalmology both inside and outside our profession over the last decade. The decline both in the number of applications for residencies and in reimbursement levels for ophthalmologic services under the RBRVS stems, at least in part, from this negativism.

The small increase in registrations over the past 2 years is encouraging, but I believe it is too soon to draw conclusions from these figures. When viewed in broader context, I believe that the optimism suggested by the state of the should be more carefully guarded.



Protective Eyewear Needed With Driver's-Side Air Bag?

To the Editor.—Severe ocular trauma from driver's-side air bag in conjunction with a three-point lap-shoulder seat belt¹ and air-bag keratitis² have been recently documented. I examined a 45-year-old woman restrained by a three-point lap-shoulder seat belt whose air bag was deployed when she drove her 1990 Lexus LS 400 at 30 mph head-on into a tree. She suffered right upper and lower lid ecchymoses and edema, right inferonasal subconjunctival hemorrhage, right corneal abrasion, and 20° to 30° of variable right exotropia.



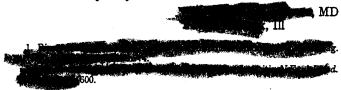
Traumatic right upper and lower lid ecchymoses and edema, right exotropia, and right subconjunctival hemorrhage related to driver's-side air-bag deployment with three-point lap-shoulder restraint. Note right upper eyelid and eyebrow excertation probably caused by canvas air bag.

Orbital roentgenograms showed no abnormalities. All her

injuries resolved completely without residua.

The case report by the properties involved facial abrasions and severe ocular trauma on the left side, and one of their hypotheses was that the air-bag may have forced that patient's head laterally against the driver's-side window in that head-on accident. With this description of a right-sided injury, the air-bag is directly implicated as the cause of the injury. Another hypothesis for these injuries besides direct air-bag-injury is that the air bag may force the driver's hand against the eye and orbit. Protective eyewear may possibly be required to protect against possible air-bag-related ocular and periocular morbidity. Further investigation is needed when an air bag is used in conjunction with three-point lapshoulder restraints.

Since this letter was accepted for publication, a 34-year-old man wearing a three-point lap-shoulder seat belt was seen after the driver's-side air bag was activated when his 1992 Lexus ES 300 hit a pothole at 30 mph. He sustained an abrasion on the tip of the nose, left upper and lower lid abrasion, edema and ecchymoses, left inferotemporal subconjunctival hemorrhage, and left inferotemporal corneal abrasion. He recovered completely without residua.



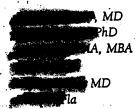
of static and kinetic perimetry indicate that static testing has better reproducibility than kinetic perimetry. Peripheral manual kinetic perimetry in the consistently had poorer quality control scores than automated static perimetry. In addition, automated perimetry is not subject to bias on the part of the perimetrist.

If reads our article

be reassured. The method used for classification of the visual fields of the was clearly specified and underwent reliability testing. It is not unusual that a carefully controlled clinical trial yields results that disagree with earlier uncontrolled clinical observations. Indeed, we also reported that visual field abnormalities were found in 68% of fellow eyes at baseline, a result that has not been reported by previous investigators. The advantages of using standardized protocols, clearly defined inclusion and exclusion criteria, a specific time schedule for follow-up examination of patients with acute optic neuritis, and a large sample size have been well demonstrated by clinical trials.

The large number of altitudinal and other nerve-fiber bundle defects that we observed for localized visual field loss in the was an important factor in forming our conclusions. We are not the first to conclude that the pattern of visual field loss in optic neuritis is of limited diagnostic value. Also concluded that the differentiation between optic neuritis and anterior ischemic optic neuropathy was difficult because of considerable overlap in the patterns of visual field defects found for both disorders.

We certainly believe that visual field testing is an integral part of the management of patients with optic neuropathy. However, we stand by our contention that the patterns of visual field loss are of limited value in differentiating optic neuritis from other causes of optic neuropathy. Clinical features such as historical information, age of the patient, presence of pain, and the time course of visual field loss are far more useful in differentiating optic neuritis from other causes of optic neuropathy.



isual field profile of optic neuritis: the experience of the Optic Neufitis Treatment Trial, 4

Study Group. Quality control functions of the visual field reading center for the optic neuritis treatment trial (ONTT). 1993;14: 143-159.

L 1991;109:1668-1672

Retinal Detachment Caused by Air Bag Injury

40-year-old man drove his automobile into a road-side ditch to avoid an oncoming car. He struck a tree stump at a speed of 10 to 15 miles per hour, causing inflation of the driver's-side air bag, which struck his face and upper body. He did not strike any other components of the car's interior. He was wearing a three-point lap-shoulder belt and was not wearing glasses.

Immediately after the accident, the patient noted visual loss in the right eye. A vitreous hemorrhage was noted by his ophthalmologist. One month later he was noted to have developed a retinal detachment in the right eye. His visual acuity was hand motions in the right eye and 20/15 OS. Examination results of the left eye were normal. In the right eye, intraocular pressure was 41 mm Hg and inferior angle recession was

See also pages 1318, 1320 and 1333

present. There were 2+ cells and 3+ flare in the anterior chamber and 3+ cells in the vitreous. Fundus examination demonstrated a total retinal detachment with early proliferative vitreoretinopathy and a fulthickness macular hole. An inferotemporal retinal dialysis extended from the 6-o'clock position to the 9:15 position (Figure). A large circumferential tear parallel and posterior to the dialysis extended clockwise from the 7-o'clock position to the 9:15 position.

Vitrectomy, scleral buckling, retinal membrane stripping, fluid-gas exchange, and endophotocoagulation were



Air bag injury with inferotemporal retinal dialysis (arrowhead), large circumferential retinal tear (asterisk), and total retinal detachment in the right eye. Visual acuity was hand motions.

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performed in the right eye. Four months later, visual acuity was 20/300 and the retina was attached.

Although various manifestations of ocular contusion have been observed in association with air bag inflation, ^{1,2} no previous cases of air bag—related injury resulting in retinal detachment and macular hole have been published, to my knowledge. Notably, the circumstances of this particular case suggest that the air bag was the sole cause of the patient's ocular injury.

Air bags are designed to inflate in response to sudden longitudinal decelerations of approximately 11 to 12 miles per hour. Collisions at low absolute speeds with sufficient deceleration may cause air bag inflation. During inflation, the air bag is propelled out of its storage compartment at speeds typically of more than 100 miles per hour (and oral communication, National Highway Traffic Safety Administration, (and 1992). The air bag striking the occupant's face at this high velocity may be responsible for blunt ocular injury.

Improvements in air bag design may help to reduce the morbidity associated with air bag inflation, while preserving its lifesaving attributes. To facilitate these efforts, new cases of air bag-related injuries should be reported to the National Highway Traffic Safety Administration:

Wis Wis

Air Bag-Associated Ocular Injury

e read the Case Report by the fine the 1993 issue of the described a patient with periorbital fractures, retinal tears, and lens subluxation from air bag insufflation and found three cases in the literature of similar damage. They must not have been aware that we reported two cases of ocular injury from air bags in the 1991 issue of the

In the first case, there was corneal edema and anterior uveitis that responded to steroid treatment as well as retinal edema that resolved spontaneously with return of visual acuity. In the second case, there was a choroidal rupture. Our letter was written in response to a report by Ingraham et al³ of alkali eye injury from air bag discharge. Interestingly, one of our patients felt sure that he had been in a collision that would not have threatened his well-being otherwise.

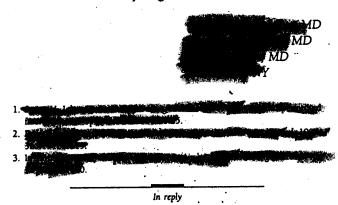
Since this report, a patient has been referred to us who required lensenctomy, vitectomy, membranectomy, and keratectomy after the air bag in his car saved his life when he ran into a telephone pole. This case was referred to us by his lawyer, who is accumulating all the evidence he can

find implicating air bags in eye trauma. At the time of the patient's accident, car manufacturers were not posting special instructions recommending concomitant seat belt use

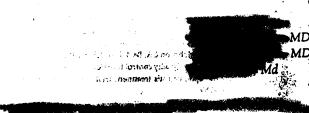
See also pages 1317, 1320, and 1333

in cars equipped with air bags. The driver was a short man whose face may have been closer to the enlarging air bag because of his height and the lack of seat belt restraint.

In our letter to the we suggested all physicians with knowledge of air baginvolved trauma contact the National Traffic Safety Administration. As the et all point out, refinements in air bag design may be warranted in light of increasing evidence of periocular trauma. We think it would be more beneficial to society if improvements in air bags were made with the cooperation of the National Traffic Safety Administration, the reporting physicians, and the automobile makers rather than as a result of pressure by the legal community whose lawsuits in this field will no doubt raise the price of cars and air bags for years to come and possibly discourage the use of future innovation for fear of liability litigation.



We thank and colleagues for informing us of their two cases of air bag-related ocular injuries. Their suggestion for closer cooperation between physicians with knowledge of air bag-related trauma, governmental regulatory offices, and automobile makers is a valid one. We believe that the conscientious reporting of these potentially vision-threatening injuries would not only heighten awareness among our colleagues, but also encourage cooperative efforts to provide constructive criticism of current air bag designs. This criticism, however, is not meant to minimize the tremendous strides made in reducing morbidity and mortality due to motor vehicle accidents through the use of air bags. 1



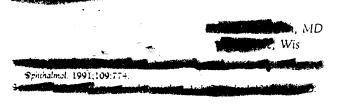
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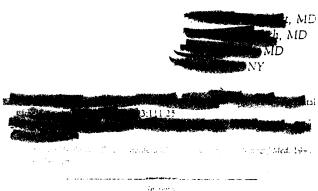
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Air Bag Injury Producing **Retinal Dialysis and** Detachment 💮

An increasing variety of air bagassociated ocular injuries have been reported, ranging from chemical keratitis to retinal tears and orbital fractures. 14 We recently treated a patient who experienced a traumatic iritis, vitreous hemorrhage, and retinal dialysis with retinal detachment following a blow to the eye from an air bag.

Report of a Case. A 31-year-old 🚓 woman with a previously unremarkable ocular history was the driver in a motor vehicle that was involved in a frontal collision. She was wearing a passive three-point restraint and was aware of the impending collision. She remembered the explosive inflation and quadrant of the left eye, with a of the air bag and did not recall striking her head on any portion of the vehicle. Immediately following the collision, she noted decreased visual acuity in her left eye and mild erythema of the left side of her face.

Ophthalmologic examination 2 days later revealed mild photophobia and a visual acuity of 20/20 OD and 20/200 OS. Her visual field was intact to finger counting in all quadrants. There were no facial or orbital ecchymoses or abrasions. The conjunctiva was mildly hyperemic over the circumlimbal area. A moderate number of pigmented cells were present in the anterior chamber and a fibrin clot was present in the pupillary space. An inferior posterior synechiae was present, which lysed on dilation. Only a blurred view could be obtained of the retina, which appeared to be flat. Treatment with topical steroids and cycloplegics was be-

gun, and 3 days later the patient had less photophobia and the fibrin clot in the anterior chamber had cleared. A vitreous hemorrhage was present.

Three weeks later, the patient's visual acuity was 20/25 OD and hand motions in the inferotemporal quadrant of her left eye. The slit-lamp examination results were normal except for trace cells in the anterior chamber and numerous pigment cells in the retrolental space. The intraocular

See also pages 1317, 1318, and 1333

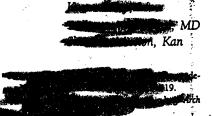
pressure, as estimated with Goldmann applanation tonometry, was 17 mm Hg OD and 15 mm Hg OS. A moderate vitreous hemorrhage was still present and a 31/2 clock hour retinal dialysis was present in the inferotemporal retinal detachment involving all but the superonasal quadrant.

A trans pars plana vitrectomy, gas-fluid exchange, and retinal cryopexy were performed. One month following surgery, the retina was attached and the visual acuity in the operated eye was 20/40 at distance and Il at near.

Comment. Air bags have been reported to cause commotio retina1; choroidal rupture1; intraretinal,2 subretinal,3 and vitreous hemorrhages3-4; and retinal tears.4 To our knowledge, this is the first report of a retinal dialysis with ensuing retinal detachment from an air bag injury. When eye trauma has occurred in a motor vehicle accident involving air bags, retinal evaluation should be performed and care taken to exclude a retinal dialysis or retinal tears. If the posterior

segment cannot be visualized, repeated examinations may help detect a delayed retinal detachment.

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Corneal Edema, Hyphema, and Angle Recession After : Air Bag Inflation

Several recent reports have documented severe ocular trauma after airbag inflation during motor vehicle accidents.1.2 et al2 reported a case in which a patient sustained periorbital fractures, retinal tears, and lens subluxation during a single vehicle accident in which the driver's-side air bag inflated. We describe herein a patient who developed localized corneal edema, hyphema, and angle recession following trauma after air bag inflation during a motor vehicle accident.

Report of a Case. A 51-year-old man, wearing a three-point lap-shoulder seat belt and driving a late-model Mazda RX7 was involved in a twocar frontal collision in which both vehicles' driver's-side air bags inflated. The approximate speed of the vehicles was 15 to 20 mph. The other driver, who was also restrained with a three-point lap-shoulder seat belt; was unhurt. The make and model of

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tient sustained abrasions to the right cal medication. side of his face as well as to his nose. He complained of decreased visual acuity in the right eye, and the emergency department physician was unable to detect a red reflex. The best corrected Snellen visual acuity was 20/400 OD and 20/20 OS.

Slit-lamp examination in the emergency department revealed right upper lid ecchymosis and edema. A temporal subconjunctival hemorrhage was present. The anterior chamber showed a 10% hyphema with diffuse microhyphema. A central horizontal linear

See also pages 1317, 1318, and 1333

corneal abrasion was also present. Intraocular pressures were 14 mm Hg OD and 17 mm Hg OS. Funduscopic examination of the right eye revealed a normal-appearing macula and optic nerve. The retina was flat in all four quadrants without evidence of commotio retinae.

One day after the accident, the best corrected visual acuity remained at 20/400 OD. A slit-lamp examination showed a well-healed comeal abrasion with a localized area of corneal edema (Figure 1). The hyphema had decreased and layered out nasally. The patient reported sleeping on his left side the night before. Two weeks later, the best corrected visual acuity had improved to 20/80 OD. The intraocular pressure was 6 mm Hg but the microhyphema persisted. Gonioscopic evaluation revealed 180° of angle recession from the 2-o'clock to said 8-o'clock positions, and treatment ratio with topical steroids and cycloplegics was continued (Figure 2). These

On his last visit 2 months after with the accident, the patient's best cor-: (iii) rected visual acuity was 20/15 OD. 108 1 The intraocular pressure measured 12 Lan mm Hg. The anterior chamber was a size quiet but the pupil was peaked slightly it toward the 7-o'clock position where an area of peripheral anterior syn-Island: See echiae had formed. By this time, the eq & interiorly with resolving hyphema.

her vehicle were not known. Our pa- 23 patient was not receiving any topi-

Comment. To our knowledge, this is the first reported case of angle recession after a motor vehicle accident in which the patient was protected with a driver's-side air bag. metal' reported a case in which marked stromal edema with Descemet's folds occurred after contusion injury from an air bag.

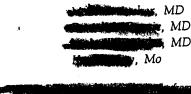


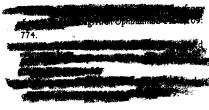
Figure 1. Oblique view of the right eye 1 day after the injury. Note the localized posterior corneal folds. The hyphema has layered out nasally.



Figure 2. Angle photograph of the right eye 2 weeks after the injury. Note the angle recession

which microhyphema, subretinal hemorrhage, and retinal folds occurred in a low-speed frontal collision. The reduction in morbidity and mortality from motor vehicle accidents in which air bags are involved is not disputed. However, further research into air bag design should be directed toward minimizing the risk of ocular and periocular injuries.





Orbital Cellulitis After Retrobulbar Injection of Chlorpromazine

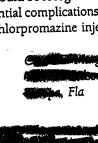
The retrobulbar injection of chlorpromazine hydrochloride is used by some physicians in Europe and the United States for the relief of pain in persons with irreversible blindness. In 1980, Fiore and associates1 reported that retrobulbar chlorpromazine (25 mg) was more effective in relieving pain than retrobulbar alcohol and causes fewer complications. A recent prospective, noncontrolled study confirmed these findings, demonstrating the successful relief of pain in more than 80% of 50 patients given a single retrobulbar injection of 25 mg of chlorpromazine.2 Transient hypotension occurred in a few patients but resolved within 6 hours.2 We describe herein a man who developed a sterile orbital cellulitis following retrobular injection of chlorpromazine associated with histologic evidence of fat necrosis.

Report of a Case. A 68-year-old man was scheduled for enucleation of a blind, painful eye due to a traumatic injury sustained during World War II. The patient was offered a retrobulbar injection of 25 mg of chlorpromazine to help relieve his eye pain since surgery could not be performed for several weeks. The injection was per-

formed without difficulty. The next day, the patient complained of increased eyelid swelling and persistent pain. On examination, there was marked chemosis of the right conjunctiva, 2 mm of right proptosis, and erythema and edema of both eyelids. The patient was treated with an oral analgesic. The eye became pain free within 4 days as the chemosis and lid swelling resolved. Surgical enucleation was performed 18 days after the retrobulbar injection.

On histologic examination, the retrobulbar connective tissue showed granulomatous inflammation and fat necrosis with scattered foamy histiocytes surrounding fat vacuoles (Figure). Fibrous obliteration of posterior Tenon's space had already begun. There was no evidence of an ocular penetrating wound from the retrobulbar injection.

Comment. A variety of injuries lead to the destruction of the plasmalemma of fat cells resulting in the histopathologic picture of fat necrosis. We have observed this same type of tissue reaction following retrobulbar injection of absolute alcohol but are not aware of any data indicating how often it occurs. The mechanism of chlorpromazine-induced fat necrosis is unclear. Like other surfaceactive compounds, chlorpromazine will cause cell lysis in high concentrations.3 A transient, sterile orbital cellulitis should be recognized as one of the potential complications of retrobulbar chlorpromazine injection.







The retrobulbar connective tissue of the right orbit contains chronic inflammatory cells, including foamy histiocytes. Fat cells normally present in this area have been partially replaced by collagenous fibrous tissue (hematoxylin-eosin, original magnification × 180).

Air Bag: Friend or Foe?

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s MORE and more cars are equipped with air bags, the number of reports of air bagrelated eye injuries is also growing. When a new product, originally introduced to enhance safety, is itself identified as the possible source of trauma, it is time to reevaluate the product's usefulness.

Our search of the international literature found eight publications reporting on air bag—related eye injuries. Others appear in this issue of the An analysis of the details of the ocular trauma, the outcome, and the circumstances of the motor vehicle crash (MVC), as found in these previously published reports, is as follows.

See also pages 1317, 1318 and 1320

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The title of the first report! left no doubt as to the cause of the injury: "Severe Ocular Trauma From a Driver's Side Air Bag." However, if one reads the "Comment" section of this case report, serious doubts arise. The authors admit that "there is no way of knowing whether the air bag was protective in this case of ocular injury or if it forced the patient's head laterally against the driver's side window . . . "1; the patient's visual acuity improved from 20/50 to 20/20 without treatment. In the second report, "mild bilateral keratitis" was seen in a 2-year-old child (thrown from the rear seat to beneath the dashboard).2 Visual acuity 1 month after the injury was 20/40 OD and 20/30 OS. The third report described one patient with corneal abrasions.3 Two weeks after the accident, visual acuity was 20/25. In the fourth report, the author attributed a 20% hyphema to the air bag. Visual acuity improved to 20/30 by the 16th postinjury day.

In the fifth case, lid ecchymoses and edema, sub-conjunctival hemorrhage, corneal abrasion, and 20° to 30° of variable right exotropia occurred following a head-on crash.⁵ All injuries resolved completely. The sixth case report described a case of mild alkaline keratitis in one eye of the driver.⁶ One week after the injury, visual acuity reached 20/25. The seventh report listed three cases of corneal abrasions.⁷ Details of the injuries were not pub-

lished. The eighth report described the most severe injury and the only one with significant and permanent visual damage. The patient suffered periorbital fractures, hyphema, lens displacement, vitreous hemorrhage, and retinal tears in one eye. Visual acuity 8 months following the injury was 20/70.

A few important questions remain unanswered. Were all of these injuries actually caused by the air bag or were some merely *coincidental*? What would have happened to those injured had the car not been equipped with an air bag? Would they have escaped without injury? Or would they have escaped at all? Is it preferable to sustain corneal abrasions from an air bag or, to hit the car's hard interior surfaces?

The air bag probably is responsible for certain eye injuries. All cases of proven chemical keratitis can reasonably be attributed to the material used (about 70 g of sodium azide is ignited, inflating the 60-L air bag in 10 milliseconds⁶); the talc powder may also inflict abrasions. Minor blunt trauma may occur when the

An analysis of our data revealed that MVC [motor vehicle crash]-related eye injuries are indeed sight threatening

eye (moving forward) and the air bag (moving the opposite direction) contact each other. Eye injuries can also result if the inflating bag forces the individual's head sideways. However, such scenarios have to be firmly proven before the fabric air bag is blamed for inflicting bone fractures.

There is overwhelming evidence that air bags save lives and reduce morbidity. The speed of the vehicles at the time of the crash was 30 to 45 mph in all five cases in the reports in which data were provided, and one cannot avoid the following question: would not the injuries have been more severe if the cars had not been equipped with air bags? An analysis of our data revealed that MVC-related eye injuries are indeed sight threatening. Of 150 eyes sustaining MVC-related serious injuries in the United States Eye Injury Registry database, whose information

#10

ted largely before the widespread use of air bags, and to be enucleated. Forty-one percent of eyes with Leguate follow-up remained legally blind. 14

Are we suggesting that the reports on air bagrelated eye injuries were false? Absolutely not. Are we suggesting that when a product has been proven time and again to prevent injuries, trauma caused by it should not be reported? Absolutely not; the reports may be very useful in enhancing product design.

However, clinical reports should be worded carefully. It is dramatic to report injuries caused by safety devices, but virtually any object can cause eye injuries under certain conditions. Before the air bag is targeted as the source of injury in the title of clinical communications, we should be reasonably certain that this is based on facts, not presumptions, and these facts should be listed in the body of the publication.

There are at least two but possibly three or even more collisions during an MVC. The first collision is between the car and another object; the car abruptly slows down or is instantly brought to a halt. The second collision is between the occupant, who is traveling at the speed the car had been traveling, and the car's interior. Additional impact may result from rebounding. Imagine a collision at 50 mph with the car's speed immediately falling to zero but the driver still moving forward at 50 mph; even if the seat belt is worn, the air bag provides an important cushion to absorb the body's kinetic energy.

The air bag prevents injury and death in MVCs; its benefits far outweigh its risks. While it is our responsibility to continue reporting injuries that in fact have been caused by air bags, it is also our responsibility to report them so that those in the medical, legal,

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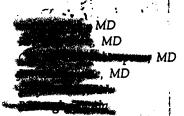
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Potential Toxicity of Mitomycin C

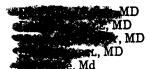
To the Editor.—Grand Cas adjunct chemotherapy during glaucoma filtration surgery. Both investigations followed similar protocols in which the episclera was soaked with a solution of 0.2 to 0.4 mg/mL of mitomycin C for 5 minutes before creating a sclerostomy. The authors concluded that a single, intraoperative application of mitomycin C favorably affected the outcome of trabeculectomy surgery. Although their studies have no concurrent control groups, two randomized controlled trials comparing fluorouracil with topical mito-

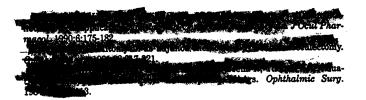
See also pp 1693 and 1725.

mycin are underway (A. 1991). No intraocular toxicity was reported using this protocol. Although retinal toxicity has been demonstrated after intravitreal injection of mitomycin C in the rabbit model, no studies have addressed intraocular toxicity following injection into the anterior chamber. We studied the intraocular toxicity of mitomycin C following intracameral injection because of the demonstrated potency of this medication, and the anticipated use of mitomycin C in glaucoma surgery.

and Care of Animals. Four and Care of Animals. Four and Care of Animals. Materials and Methods -Our study design was approved by The and Care of Animals. Four tized with intramuscular injections of ketamine hydrochloride (35 to 45 mg/kg) and xylazine hydrochloride (5 to 10 mg/kg). Intracameral injections of 50 µL of mitomycin C (0.5 mg/mL of balanced salt solution) were made through a corneal paracentesis in four eyes, and an identical volume of balanced salt solution was similarly injected into the anterior chamber of the contralateral eye to serve as a control. All four eyes injected with mitomycin C demonstrated a severe inflammatory response within 24 hours. Within 72 hours, the four corneas exposed to mitomycin C, were opaque and markedly thickened. Although one edematous cornea spontaneously cleared within 10 days after injection, the remaining three eyes showed progressive, irreversible bullous keratopathy. Histopathologic study performed 2 weeks after injection revealed corneal edema with complete absence of normal corneal endothelium, engorgement of iris blood vessels with necrosis of the iris and ciliary body, and acute inflammatory cells in the anterior chamber. The retina appeared normal on clinical and histologic examinations. No toxicity was seen in the control eyes.

Comment.—Mitomycin C demonstrates severe toxicity when one drop of the recommended topical dose is placed directly in the anterior chamber. Such severe effects might occur if mitomycin C was applied after creating the sclerostomy, or if it was injected subconjunctivally during the post-operative period. Those surgeons who use mitomycin C recommend irrigation of the episclera after its application. This appears wise if the toxicity indicated in experimental rabbits is likely to occur in humans.





Hyphema Caused by Air Bag

Report of a Case.—A 34-year-old woman driving between 40 and 65 km/h skidded into another car on wet pavement. She was wearing a three-point lap-shoulder seat belt when the air bag inflated. The car sustained damage to the front end, but the passenger compartment and windows were intact. The patient presented to the emergency department with abrasions and contusions primarily centered in the middle of her face. Her unaided visual acuity was 20/200 OD and hand movement in the left eye. Abrasions were present on both eyelids, slightly greater on the left than on the right. She had corneal epithelial abrasions over the superior half of both corneas, associated with stromal thickening and striae of Descemet's membrane. The right eye had 1+ anterior chamber cellular reaction; the left eye had a 20% hyphema and an irregular unreactive pupil. She was hospitalized, treated with bed rest and binocular patching, and bled again before being discharged. A small retinal hemorrhage was thereupon noted, but no retinal tears were found. A small angle recession was also noted on gonioscopy. Sixteen days after the injury, her pinhole vision was 20/30 +2 OU. Intraocular pressures were never elevated, and her vision improvement coincided with resolution of the hyphema in the left eye and of the corneal abrasions and corneal edema.

Comment.—In the case described by there was a question of whether the eye injury was due directly to the air bag or to the air bag forcing the patient's head against the driver's side window. The case I have described, with the bilateral eye injuries and central symmetrical facial abrasions, implicates the air bag as the cause of the ocular injuries. In addition, given the state of the undamaged passenger compartment, speculation may arise as to whether this patient may have avoided serious ocular damage had the air bag not inflated. Given its recent introduction to the mass market, there is no doubt that more ocular injuries attributed to air bags will be noted. Perhaps further refinements of the air bags will allow them to keep their well-established attributes while eliminating their potential for causing ocular injuries.

The Lens Opacities Case-Control Study

To the Editor.—We read with interest the article by all al' in the Editor. The authors identified ingestion of gout medications as a risk factor for the

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Correspondence

Corneal Endothelial Cell Loss Induced by Air Bags

Background: Although the automobile air bag is a safety device used to protect drivers from death and moderate-to-severe injury, recently it also has been reported to be associated with some ophthalmic injuries. The authors have encountered a case in which a normal air bag may have caused a driver's corneal endothelial cell loss. In this study, the authors evaluate corneal endothelial cell loss caused by several types of air bags in the hope that air bag technology may be improved.

Methods: The authors performed impact tests with whole pig eyes fixed in a crash test dummy, using five different types of air bags. The area of damaged corneal endothelial cell was analyzed quantitatively.

Results: The authors found that corneal endothelial cell loss was correlated with the inflator power of the air bag but not with its weight.

. **Conclusion:** Although greater inflator power is needed for rapid air bag expansion, the effect on the eye should be considered in further refining this device. There may be greater latitude in the selection of air bag material. The authors believe their technique is applicable to the assessment of many air bag or passenger variables.

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Although the automobile air bag is a safety device used to protect drivers from death and moderate-to-severe injury, ^{1,2} recently it also has been reported to be associated with chemical keratitis, ³ corneal stromal edema, ⁴ and vitreous and subretinal hemorrhage. ⁵ We have encountered a case in which a normal air bag may have caused a driver's corneal endothelial cell loss.

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The authors have no financial interest in any of the equipment used in this study.

Department of Ophthal-

The corneal endothelium is essential for the maintenance of corneal clarity. Because it is well known to have no mitotic activity, cell loss may lead to other ocular complications, principally related to defects in corneal hydration. The presence of corneal endothelial cell loss after air bag inflation suggests that unexpected deformity of the eyeball may occur with normal use of this device.

In this study, we evaluate corneal endothelial cell loss caused by several types of air bags. We believe that ocular effects should be considered in further refining air bag technology.

Case Report

We devel condition

A 24-year-old woman was involved in an automobile accident that caused inflation of an air bag in her automobile. The patient was examined by ophthalmologists 3 hours after the accident; she experienced bilateral blurred vision and photophobia. Visual acuity was 20/200 in the right eye (20/100X + 0.50 diopters [D]) and 20/300 in the left (20/200X + 1.00 D); corneal stromal edema and interpalpebral epithelial defects were observed. Corneal endothelial cells were observed and counted by specular microscopy. Four days after the injury, the cell count was 1044.3

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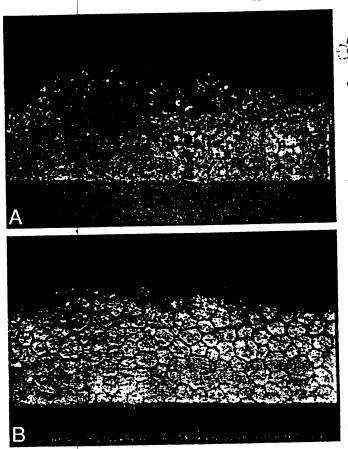


Figure 1. Specular microscopic observation at 4 days (A) and 4 months (B) after the injury. Although the patient's visual acuity recovered, 51.5% of corneal endothelial cell loss still remained even 4 months after the injury.

cells/mm² at the corneal center (Fig 1A) and 2740.0 cells/mm² at the periphery. Four months after the injury, 1330.6 cells/mm² were observed at the center (Fig 1B). Although visual acuity improved to 20/15 in the right eye and 20/40 in the left (20/17X - 0.37 D), 51.5% of endothelial cell loss still remained compared with the peripheral value measured 4 days after the injury (P < 0.05).

Materials and Methods

We devised a system to test air bag inflation that simulated conditions inside an automobile. A disposable air bag cartridge was fixed in the center of the handle. The crash test dummy was outfitted with two metal orbits (Fig 2A), in each 30 mm in diameter, 45 mm in depth, and with 8 mall holes inferiorly (Fig 2B). We made five different air bags from three air bag weights (ratios of 100%, 80%, and 60%) and three inflator powers (ratios of 100%, 75%, and 60%) (Table 1).

Forty-two porcine whole eyeballs were used in a test of distance-related damage with types A and B air bags, 30 were used in a test comparing all 5 air bags, and 10

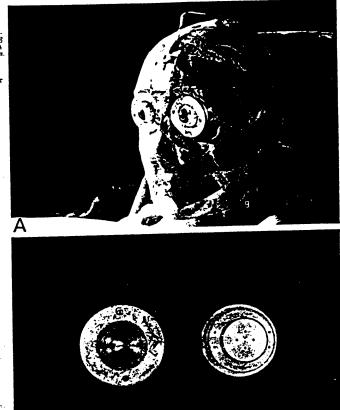


Figure 2. A, the originally developed head portion of the dummy, with attachments for two metal orbits. B, the metal orbit, measuring 30 mm in diameter and 45 mm in depth, with eight small holes inferiorly.

were used as controls. All eyes were stored in ice and used within 8 hours of enucleation.

Peribulbar tissue, including the muscles, was carefully removed with fine forceps and scissors. After cotton was placed in the bottom of the metal orbit, the eyeball was fixed in place with four 4–0 silk mattress sutures at the equator. Suture tension and the amount of cotton were adjusted to maintain intraocular pressure of approximately 15 mmHg as estimated by palpation.

Table 1. Types of Air Bags

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Type	Power of Inflator (type 1 = 100%)	Weight of Bag Material (type $x = 100\%$)
A	1 (100%)	x (100%)
В	2 (80%)	y (75%)
Ċ	3 (60%)	z (60%)
D	1 (100%)	y (75%)
E	2 (80%)	x (100%)

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et al Corpeal Endothelial Cell Loss and Ain Bags







Figure 3. The movement of the inflating air bag and dummy. A, the air bag inflates, breaking the shell. B, the bag impacts against the upper chest and neck of the dummy. C, the bag strikes perpendicularly into the face.

For the test of distance-related damage, the crash test dummy was seated with eyeball-air bag distances of 160, 240, and 320 mm, with seven air bag deployments at each distance. For the comparison of the various air bag types, the eyeball-air bag distance was maintained at 240 mm, each with seven deployments.

All experiments were recorded by a high-performance video camera, which records 3000 frames/second, to evaluate the movement of the air bag and the crash test dummy's head. The pressure inside the air bags also was monitored.

Immediately after each test, the corneoscleral flaps were removed by careful limbal incision using ophthalmic scissors. The flaps were cut into three corneal strips with a razor blade.

Trypan blue (0.25%) was applied to the central corneal strips for 60 seconds, and the strips were then washed in saline. Alizarin red (0.2%, pH 4.2) was applied to the strips for 60 seconds, after which the strips were again washed in saline. Four light microscopic pictures were then taken of each strip.

The area of damaged corneal endothelium was traced and analyzed quantitatively by a special system (and yzed analyzed quantitatively by a special system (analyzed analyzed quantitatively by a special system (analyzed analyzed analyzed quantitatively by a special system (analyzed analyzed quantitatively by a special system (analyzed quantitatively by a special system).

Results represent the mean ± standard deviation for each experiment. Determination of significant differences (unpaired Student's t test) was performed using the commercially available software program StatView SE(**).

Results

Figures 3A to 3C show the movements of the crash test dummy as it strikes the inflating air bag. After initial deployment (Fig 3A), the air bag expands against the upper chest and neck of the dummy (Fig 3B) and finally expands

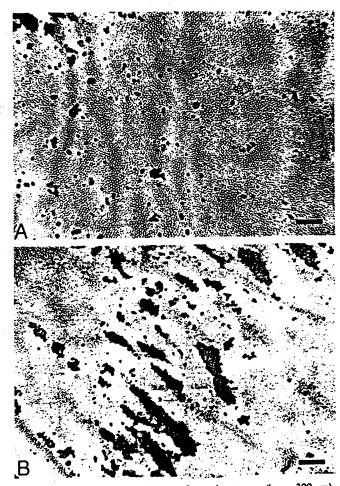


Figure 4. The damaged endothelium after air bag impact (bar = $300 \mu m$). A, type C, 240 mm. Scattered areas staining with alizarin red were observed. B, type A, 240 mm. Areas of widespread staining with alizarin red, indicating detachment of Descemet's membrane or endothelial loss, were observed. Endothelial cell staining with trypan blue indicates damage to the cellular membranes.

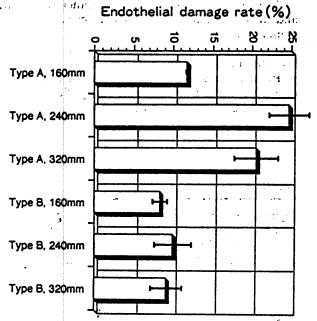


Figure 5. The endothelial damage rate for types A and B air bags at different distances.

perpendicularly into the face (Fig 3C). The actual impact at the eye was hidden by the air bag.

In the control eyes, the intercellular space was stained with alizarin red, whereas only a few cells were stained with trypan blue, indicating endothelial cell damage.

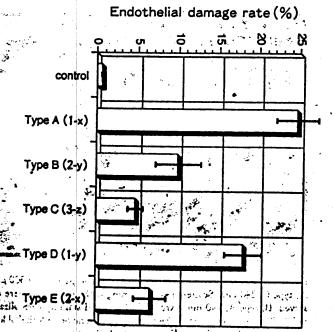
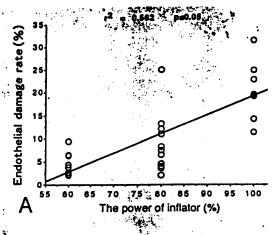


Figure 6. The endothelial damage rates for types A to E air bags at 240 mm.



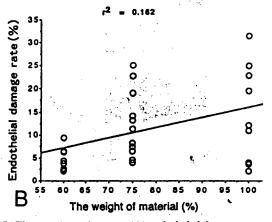


Figure 7. The correlation between (A) endothelial damage rate and the power of inflators (a, $r^2 = 0.56$, P < 0.05) and (B) the weight of the bag materials ($r^2 = 0.16$).

Examples of damaged endothelium after air bag deployment for type C at 240 mm and type A at 240 mm are shown in Figures 4A and 4B, respectively. Widespread staining with alizarin red, indicating detachment of Descemet's membrane or endothelial loss, was observed. Considerable endothelial cell staining with trypan blue, indicating cellular membrane damage, also was observed.

The endothelial damage rates for air bag types A and B as a function of eyeball-air bag distance are shown in Figure 5. The damage rates for type A air bags were 11.6 \pm 7.1% at 160 mm, 24.6 \pm 5.1% at 240 mm, and 20.5 \pm 8.4% at 320 mm, while those for type B air bags were 8.3 \pm 4.3% at 160 mm, 9.9 \pm 7.3% at 240 mm, and 9.1 \pm 7.8% at 320 mm. Endothelial damage was greatest at 240 mm for both air bag types. These differences were not statistically significant.

The endothelial damage rates for air bag types C, D, and E at 240 mm were $4.7 \pm 2.5\%$, $18.0 \pm 5.2\%$, and $6.5 \pm 4.6\%$, respectively (Fig 6). At this distance, the damage rates for types A and B were each significantly greater than those for type B, C, and E (P < 0.05). The damage rate for type B was significantly greater than those for

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Corneal Endothelial Cell Loss and Air Bags

types C and E (P < 0.05), and the damage rate for type E, in turn, was significantly greater than that for type C (P < 0.05).

The endothelial damage rates were correlated with the power of the inflating module ($r^2 = 0.56$, P < 0.05) (Fig 7A) but not with the weight of the air bag material ($r^2 =$ 0.16) (Fig 7B).

Discussion

After air bag impact, corneal cells with trypan blue, indicating damage of cellular membranes, and with alizarin red, indicating exposures of Descemet's membrane were observed. The mechanism of the endothelial cell damage is uncertain, but one possibility is cellular expansion caused by abrupt corneal deformity, similar to that seen in BB gun injuries. 6.7 Direct contact between the corneal endothelium and the iris or lens may cause substantial endothelial cell loss.

In standard crash tests (a car hitting a wall at 50 km/ hour), air bag inflation is initiated 15 msec after impact. Nitrogen gas inflates the bag, breaking the shell, and the bag expands forward. Fifty milliseconds after impact, the air bag finishes expanding and briefly maintains constant volume and pressure by drawing off the gas from two exhaust holes at the back of the bag. A passenger who sits in a normal position and uses a seat belt will not impact against the air bag for at least 60 msec after a crash, and will thus be protected from crashing directly against the steering wheel or windshield.

Conversely, as in the case we reported, a driver positioned very near the air bag cartridge could impact the air bag during the inflation and expansion process. We seated the dummy at distances ranging from 160 to 320 mm from the air bag cartridge and observed slightly

greater endothelial cell loss at 240 mm, which was the distance we used for all subsequent tests. This effect may be caused by deployment of the anterior portion of the air bag, which is reported to reach a maximum velocity at approximately 200 mm from the cartridge.

We observed significantly greater endothelial cell loss for air bags with greater inflator powers. Unfortunately, this power may be necessary to speed expansion and maintain volume and pressure for proper impact absorption. However, lighter materials, which may cause less ocular trauma, may be practical without compromising

passenger safety.

Since the corneal endothelium is essential for the maintenance of corneal clarity and is well known to have little or no mitotic activity, cell loss can have serious ocular ramifications. We believe that ocular effects should be considered in further refining air bag technology. To this end, our technique may be used to examine any number of air bag and passenger variables.

References

